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NOTICE

AS OF THIS DATE THE ILLINOIS BULLETIN, PUBLISHED PURSUANT TO THE PROVISIONS OF THE ILLINOIS ADMINISTRATIVE PROCEDURE ACT, IS APPLICABLE ONLY TO THE FOLLOWING STATUTES AND DEPARTMENTS IN PART:

(A) Department on Aging

1. Illinois Act on the Aging
(Chapter 23, Paragraph 6105.02)

(B) Department of Children and Family Services

1. Act creating the Department of Children and Family Services
(Chapter 23, Paragraph 5004)

(C) Dangerous Drug Commission

1. "Dangerous Drug Abuse Act"
(Chapter 91½, Paragraph 120.13)

(D) Department of Mental Health

1. Mental Health Code of 1967
(Chapter 91½, Paragraph 12-10)
2. An Act codifying the powers and duties of the Department of Mental Health and Developmental Disabilities
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(Chapter 91½, Paragraph 213)
4. Community Mental Health Act
(Chapter 91½, Paragraph 308.1)
5. Alcoholism and Intoxication Treatment Act
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6. Specialized Living Centers Act
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7. Vital Records Act
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8. Registration of marriages, divorces and annulments
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1. Vocational Rehabilitation of Disabled Persons
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Illinois Department of Public Health - Proposed Revisions to
Rules and Regulations for the Licensing of Hospitals

The Illinois Department of Public Health proposes to amend the rules and regulations for the licensing of hospitals promulgated in accordance with the provisions of the Hospital Licensing Act (Ch. 111½, Sec. 142 et seq, Ill. Rev. Stats. 1975). This proposed action would amend and repeal various Rules in Parts I, II, III, V, VII, IX, XIII, XIV, XVII of the rules and regulations for the licensing of hospitals and would completely revise Part XX of those rules.

The revised Part XX, which would contain Design and Construction Standards for New Hospitals represents an update which would fulfill part of the purpose of the Hospital Licensing Act and its Rules and Regulations; that is: "to provide for the better protection of the public health through the development, establishment, and enforcement of standards. . . (2) for the construction, maintenance, and operation of hospitals which, in light of advancing knowledge, will promote safe and adequate treatment of such individuals in hospitals . . ." (Ch. 111½, Sec. 143, Ill. Rev. Stats. 1975) (Emphasis added)

The revisions in Part XX were developed through the efforts of a subcommittee of the Hospital Licensing Board, the membership of the subcommittee representing hospitals and the architectural and engineering fields. The revisions update prior standards to reflect current thinking of the Department and the industry. The revisions also serve to create conformity with federally-established regulations for hospitals, representing nationwide thinking.

Some aspects of the revisions in Part XX are as follows:

1) The revised standards would incorporate as referenced the latest (1976) edition of the National Fire Protection Association (NFPA) Standard No. 101 Life Safety Code.

2) The revised standards would incorporate as referenced the 1976 International Conference of Building Officials (CIBO) Uniform Building Code Vol. I, with certain specific exceptions.

3) The revised standards would include only a few very basic standards regarding outpatient clinics existing in conjunction with and as a part of hospitals.

4) The proposed revised standards do not include detail specifically with regard to certain sophisticated departments which might be included in some hospitals, since the standards are intended to reflect the requirements for a typical hospital.

Revisions in other parts of the regulations would include the following:

Rule 2-3.1 would be revised to refer to the Illinois Health Facilities Planning Act as a reminder of its effect on hospital expansion programs.

Subsection (p) would be added to Rule 3-1.1 (1) in order to: 1) require that the hospital establish bylaws, rules, or regulations which would require that a physician serve as first assistant in major and/or hazardous surgery, and 2) require that the hospital assure that a qualified surgical assistant will assist the operating surgeon in the operating room.

Rule 7-1.1 (1)(b)(3) would be revised to allow hospitals to have pharmacies "on call" at all times instead of requiring hospitals to have pharmacies staffed at all times.

Rule 11-6.3 would be amended to require use of the National Fire Protection Association Bulletin 56A and 56F, Recommended Safe Practice for Hospital Operating Rooms as a guide rather than merely recommending use of the National Fire Protection Association Bulletin 56.

Subsection (j) of Rule 13.1.5 would be repealed since its substance is included in other Rules.

Rule 17-2.3 would be repealed because Part XVI on requirements for tuberculosis hospitals was previously repealed.

All other rule revisions in Parts I - XIX are proposed because of major revisions in Part XX. Certain rules would be shortened and references to Part XX requirements would be added in order to consolidate all design and construction standards and to avoid conflicts.

These proposed revisions to the rules and regulations for the licensing of hospitals were approved by the Hospital Licensing Board (as required in Section 151(c) of the Hospital Licensing Act) at its July 11, 1977 meeting. If any interested persons wish to present their views concerning this intended action, they may do so by sending written comments to the attention of: Mr. Robert Bilstein, Administrator, Hospital and Ambulatory Surgical Treatment Center Section, Illinois Department of Public Health, 525 W. Jefferson Street, Springfield, Illinois 62761. The Department will consider all written comments received by the Department within 30 days beginning on the date of publication of this notice.

The texts of affected rules follow. The existing texts of affected rules in Parts I - XIX are printed to show the proposed revisions, with deletions indicated by strike-out and additions underlined (except when underlining is for emphasis or to indicate a title). Only the full proposed new text of Part XX appears since it is a complete revision of existing Part XX.

FOREWORD

The Hospital Licensing Act, approved July 1, 1953, and amended July 11, 1955, requires virtually all hospitals in Illinois to be licensed. The Illinois Department of Public Health, through its ~~Bureau of Health Facilities~~, is responsible for the administration of the law. This agency is required to prepare the rules, regulations, and statements of policy necessary to implement and make specific the provisions and purposes of the law. The law provides a Hospital Licensing Board to advise the Department on administration and to approve rules and regulations.

The rules and regulations, published herein, were prepared for and shall serve as the basis for licensing the various types of hospitals covered by the law. Many agencies and individuals, both within and outside the Department, have contributed to the preparation of this material. It has been approved by the Hospital Licensing Board.

The main purpose of the law and of these regulations is to further protect the public health through the development and enforcement of standards for the care of individuals in hospitals, and for the construction, maintenance, and operation of hospitals. Another important purpose is to contribute, in an educational way, to an even higher quality of patient care. Copies of these regulations should at all times be available within the institution and employees should be fully informed and instructed with reference to the requirements.

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(1-1.10) 10. Submission of architectural plans

In the event that a permit is issued, the person to whom the Director has issued the permit shall submit architectural plans and specifications to the Department for review and approval. Final approval of the plans and specifications for compliance with design and construction standards shall be obtained from the Department before any alteration or addition to an existing facility or construction of a new facility is begun. (For further information on submittals and requirements see Part XX of these requirements.)

(2-3.1) 1. Occupancy Control

Every hospital should develop effective occupancy control measures and participate in inter-hospital and community planning to meet medical and hospital needs. Such planning shall include a continuing evaluation of the hospital's facilities and services to make the most effective use of existing hospital, nursing home and public health facilities and services, including community home care services, and of developing new and/or additional services.

Every hospital should enforce its occupancy control measures in an effort to avoid over utilization of its facilities and services. Hospitals experiencing a high level occupancy should, if other measures are inadequate, develop hospital expansion plans in conjunction with recognized health facility planning organizations within its area or region. Expansion programs must also comply with Public Act 78-1156, the Illinois Health Facilities Planning Act, as administered by the Health Facilities Planning Board.

- (3-1.1) 1. The medical staff shall be organized in accordance with written bylaws, rules and regulations, approved by the Governing Board. The bylaws, rules or regulations shall specifically provide but not be limited to the following provisions:
- (a) for written procedures for accepting and processing applications for medical staff membership;
 - (b) for eligibility for staff membership, whether the practitioners are or are not currently members of the medical staff;
 - (c) for a policy that specifies a procedure for processing applications for staff privileges and guarantees due process and fair hearing for each such applicant;
 - (d) for such divisions and departments as are warranted; (as a minimum, active and consulting divisions are required);
 - (e) for such officers as are warranted;
 - (f) for committees as are warranted to assure the responsibility for such functions as pharmacy and therapeutics, infection control, utilization review, patient care evaluation, and the maintenance of complete medical records;
 - (g) for determination of qualifications and privileges;
 - (h) that medical staff meetings be held regularly, and that written minutes of all meetings be kept;
 - (i) for review and analysis of the clinical experience of the hospital at regular intervals--the medical records of patients to be the basis for such review and analysis;
 - (j) conditions or situations which require consultation;
 - (k) for consultation between medical staff members in complicated cases;
 - (l) that tissue removed at operation shall be examined by a qualified pathologist and that the findings shall be made a part of the patient's medical record;
 - (m) for keeping complete medical records;
 - (n) for written Utilization Review Plan;
 - (o) for Medical Care Evaluation Studies;
 - (p) for policies requiring a physician as first assistant at major and/or hazardous surgery. Written criteria to determine when an assistant is necessary shall be established and be a part of the surgical department procedure manual.

Through their credentialing and/or privilege granting process the medical staff shall assure that a qualified surgical assistant, whether a physician or non-physician, assists the operating surgeon in the operating room. (Refer to Requirements (g), (i), (j), (k) and (o) above.)

- (5-2.1) 1. Facilities for procurement, safekeeping and necessary pretransfusion procedures for blood and blood components shall be provided or readily available.
- (a) The hospital shall maintain, as a minimum, blood storage facilities under adequate control and supervision of the pathologist or other authorized physician.
 - (b) For emergency situations the hospital maintains at least a minimum blood supply in the hospital or can obtain blood quickly from community blood banks or institutions, or has an up-to-date list of donors and equipment necessary to bleed them.
 - (c) Where the hospital depends on outside blood banks, there shall be an agreement governing the procurement, transfer and availability of blood which is reviewed and approved by the medical staff, administration and governing body.
 - (d) There shall be provision for prompt blood typing and cross-matching, and for laboratory investigation of transfusion reactions, either through the hospital or by arrangements with others on a continuous basis, under the supervision of a physician licensed to practice medicine in all its branches in Illinois.
 - (e) Blood storage facilities in the hospital shall have an adequate alarm system, which is regularly inspected and is otherwise safe and adequate. (See Part XX of these Requirements.)
 - (f) Records shall be kept on file indicating the receipt and disposition of all blood and blood components.
 - (g) Samples of each unit of blood used at the hospital are to be retained according to the instructions of the committee indicated in subparagraph (1) of this Section (5-2.1) for further testing in the event of reactions.

- (h) Blood and blood components not so retained which have exceeded their expiration dates are to be disposed of promptly.
- (i) A committee of the medical staff or its equivalent shall review all transfusions of blood or blood components and make recommendations concerning policies governing such practices.
- (j) The review committee shall investigate all transfusion reactions occurring in the hospital and make recommendations to the medical staff.

(7-1.1) 1. Each hospital shall provide emergency services according to one of the following categories:

(a) Comprehensive Emergency Treatment Services

- (1) At least one licensed physician shall be in the emergency department at all times.
- (2) Physician specialist representing the major specialties, and sub-specialties such as plastic surgery, dermatology, ophthalmology, etc., shall be available within minutes.
- (3) Ancillary services including laboratory and x-ray shall be staffed at all times. Pharmacy shall be staffed or "on call" at all times.

(b) Basic Emergency Treatment Services

- (1) At least one licensed physician shall be in the emergency department at all times.
- (2) Physician specialists representing the specialties of medicine, surgery, pediatrics and maternity shall be available within minutes.
- (3) Ancillary services including laboratory and x-ray and-pharmacy shall be staffed at all times. Pharmacy shall be staffed or "on call" at all times.

(c) Standby Emergency Treatment Services

- (1) One of the registered nurses on duty in the hospital shall be available for emergency services at all times.
- (2) A licensed physician shall be "on call" to the emergency department at all times.

All hospitals irrespective of the category of services provided shall make adequate provision for rendering immediate first aid and emergency care to persons requiring such treatment on arrival at the hospital.

(9-1.3) 3. Patients' Rooms

- (a) ~~Each patient's room shall be an outside room with a satisfactory amount of natural light and shall communicate directly with a corridor.~~
- (b) ~~Rooms, the floors of which are more than three feet below the ground level, shall not be used for bed patients.~~

All patient rooms shall be in compliance with Part XX of these requirements.

(9-1.4) 4. Isolation Room

- (a) ~~There should be a room or rooms for isolation of patients with known or suspected communicable disease. Each such room should have an individual toilet equipped with a bedpan flushing attachment; a lavatory with knee or foot control; a supply of paper towels; and a hook on which to hang gowns.~~

At least one isolation room shall be provided for each hospital in compliance with Part XX of these requirements.

(9-2.1) 1. Arrangement and Spacing

(a) Room furnishings shall be arranged to facilitate nursing care and to avoid the transmission of infection.

(b) ~~There shall be an interval of at least three feet between adult beds and between cribs, unless fixed cubicles are installed.~~

(b) For spacing see Part XX of these requirements.

(11-6.3) 3. ~~It is recommended that~~ the current edition of the National Fire Protection Association Bulletin 56A and 56F, Recommended Safe Practice for Hospital Operating Rooms, shall be used as a guide.

(11-8.5) 5. Accommodations and facilities for recovery rooms

~~(a) The postoperative recovery room shall be located within or adjacent to the operating suite and be easily accessible from it. Separate entrance and exit doors are desirable.~~

~~(b) There shall be a minimum of one recovery room bed for each operating room.~~

~~(c) There shall be a minimum of 70 square feet per bed. This area shall exclude the nursing station, work space, and storage area. In addition, at least 4 feet 0 inches must be maintained between the sides of the beds, at least three feet between the side of any bed and any wall or other fixed device, and at least six feet between the foot end of any bed and any other equipment or fixed device.~~

~~(d) The recovery room shall have adequate lighting. The lighting should be of the type to allow accurate observation of the patient's condition including vital signs.~~

~~(e) The room shall be air-conditioned so that the temperature can be maintained at an average of 75° F. and the relative humidity~~

~~in the summer at an average of 50 percent and in the winter at an average of 35 percent. At least six total air changes per hour shall be provided. All air shall be exhausted directly to the out-of doors and no air may be recirculated.~~

- ~~(f) When control of excessive sunlight is necessary, washable pull shades or other appropriate methods shall be used.~~
- ~~(g) A lavatory with knee or foot operated faucets and a clinical sink shall be provided.~~
- ~~(h) A soiled holding area shall be provided.~~
- ~~(i) There shall be a nursing station within the post-operative recovery room with adequate lighting and work space. Facilities for medicine storage and preparation shall be provided.~~
- ~~(j) Adequate storage and work space within or adjacent to the recovery room(s) shall be available for necessary supplies and equipment.~~
- ~~(k) Each bed site shall be adequately equipped with oxygen, suction, and electrical outlets. This shall include as a minimum one oxygen, one suction, and two duplex electrical outlets per bed. The electrical outlets shall be properly located to serve each patient.~~
- ~~(l) Permanent partitions between beds shall be prohibited.~~

Room(s) for post-anesthesia recovery of surgical and obstetrical patients shall be provided and shall contain a drug distribution station, handwashing facilities, charting facilities, clinical sink with bedpan flushing device, and storage space for supplies and equipment. Additional recovery space(s) may be necessary to accommodate surgical outpatients. For more detailed information see Section XX of these requirements.

(13-1.5) 5. Health and Hygiene

- (a) Personnel shall be in good health; free of infections or communicable disease; and free of boils, infected wounds, sores or lesions. Persons suspected of having a communicable, contagious or infectious disease shall be subject to the measures outlined in the Department's current Rules and Regulations for the Control of Communicable Diseases and the Department's current Food Service Sanitation Rules and Regulations.

- (b) The outer clothing of all employees shall be clean and street clothing shall not be worn as outer clothing by employees while engaged in the preparation and serving of food.
- (c) Employees shall wear hair nets, headbands or other effective hair restraints to prevent the contamination of food or food-contact surfaces.
- (d) Employees shall thoroughly wash their hands and the exposed portions of their arms with soap and warm water before starting work; during work as is necessary to keep them clean; and after smoking, eating, drinking or using the toilet. Employees shall keep their fingernails clean and trimmed.
- (e) Except where tasting food is part of the job, employees shall consume food only in designated dining areas. An area shall not be designated as a dining area if consuming food there might result in contamination of other food, equipment, utensils, or other items needing protection.
- (f) Employees shall not use tobacco in any form while engaged in food preparation or service, nor while in equipment or utensil washing or food preparation areas. Employees shall use tobacco in any form only in designated areas. An area shall not be designated for that purpose if the use of tobacco there might result in contamination of food, equipment, utensils, or other items needing protection.
- (g) Employees shall handle soiled tableware in a way that avoids contamination of their hands.
- (h) In the event food service employees are assigned duties outside the dietetic service, these duties do not interfere with the sanitation, safety, or time required for dietetic work assignments.
- (i) Employees shall maintain a high degree of personal cleanliness and shall conform to good hygienic practices.
- (j) ~~The food service director and supervisors in charge of a shift shall be subject to sanitation training as regulated in the Department's current Food Service Sanitation Rules and Regulations, Rule 3.05.~~

(14-1.3) 3. Adequate Roads, walks, and parking areas, properly marked, shall be provided, lighted, and maintained, ~~should be provided within the lot lines to the main entrance, ambulance entrance, and service entrance.~~ See Part XX of these requirements.

(14-1.6) 6. Decorative curtains or draperies shall be prohibited in delivery rooms, high risk or critical care nurseries, emergency rooms, and in major and minor surgeries. When control of excessive sunlight is necessary, washable pull shades (to be damp dusted daily) may be used. Curtains, draperies, and venetian blinds, if used elsewhere in the hospital, shall be kept clean. For flame spread ratings, see Part XX of these requirements.

(14-1.8) 8. Emergency electric service. It is recommended that existing hospitals provide emergency electric service as detailed under Regulation ~~(20-10.3)-(g), Page 172.~~ (20-10.8)(g), page 194.

(14-2.3) 3. Plumbing

(a) ~~The plumbing system shall be free from cross-connections and inter-connections between a safe water supply and one which is subject to contamination, or between a safe water supply and sewage, waste water, drainage, condensate, previously used water, contents of plumbing fixtures, or any other contaminated material.~~

(b) ~~All plumbing fixtures and equipment shall be so designed and installed as to prevent the back-flow or back-siphonage of any material into the water supply. The over-the-rim type water inlet shall be used wherever possible; vacuum breaking devices shall be properly installed when an over-the-rim type water inlet cannot be utilized.~~

(c) ~~These standards shall be used as a guide to determine satisfactory compliance of individual fixtures:~~

- (1) ~~The openings on lavatory, laundry tray, and bathtub faucets shall end at least one inch, 1½ inches, and two inches respectively above the rims of the fixtures.~~
- (2) ~~Each flushometer-type valve shall have an approved vacuum breaker installed between the valve and the fixture at least four inches above the rim of the fixture. Such fixtures include direct flush toilets, service sinks, some types of bedpan washers, urinals, etc.~~
- (3) ~~Each toilet and urinal with a flush tank shall be provided with an approved vacuum breaker ball cock on the water inlet, so installed that the effective air opening is at least one inch above the top of the overflow tube.~~
- (4) ~~Each water inlet, the end of which is or may be submerged in contaminated liquid and which is controlled by a hand-operated gate or globe valve, shall have an approved vacuum breaker installed between the valve and the fixture and at least 6 inches above the rim of the fixture. This includes x-ray developing tanks, some types of bedpan washers (including hot water connections), dishwashing machines, steam tables, bidets, sitz baths, instrument and utensil sterilizers, laundry machines, etc.~~
- (5) ~~An open fitting, properly vented if necessary, shall be installed on the drain pipe of each fixture or unit in which there could be a surcharge of sewage or other contaminated liquid. This includes dishwashing machines, mechanical potato peelers, refrigerators, steam tables, etc.~~
- (6) ~~Each water-operated aspirator shall be equipped with an approved vacuum breaker between the valve and the aspirator, have a free-fall discharge to a sewer or sink, and have one or more wide-mouthed jars connected to the suction hose to collect all infectious material and to prevent its entrance through the aspirator into the water supply. The vacuum breaker shall be at least six inches above the highest point from which suction may be taken.~~
- (7) ~~Each drinking fountain shall be of such design that the water issues at an angle from the vertical, the end of the water orifice is above the rim of the bowl, and a guard is located over the orifice to protect it from lip contamination.~~

- (8) ~~No hose shall be affixed to any faucet if the end of the hose can become submerged in contaminated liquid, unless the faucet is equipped with an approved properly installed vacuum breaker.~~
- (9) ~~All sterilizing equipment shall be of such design and so installed as to prevent not only the contamination of the water supply but also the entrance of contaminating materials into the sterilizing units. The following standards shall be used to determine satisfactory compliance of various types of equipment:~~
- (a) ~~There shall be installed on each water sterilizer or battery thereof an air filter for removal of dust and contaminated particles from the air admitted to the units; a small unvalved bleeder pipe on the water inlet between the valve and the unit to prevent leakage of non-sterile water into the unit through a faulty valve; and an open funnel fitting on the waste pipe, which fitting shall have an air gap of not less than 2 inches. The cooling coil discharge shall pass through the same, or equivalent, open fitting. There shall be positive assurance that the water in the glass gauge, blow-off line, and the sterile water tap is sterilized when the equipment is being operated.~~
- (b) ~~Each autoclave, or battery thereof, shall have an open funnel fitting with an air gap of not less than 2 inches for the discharge of water condensate, or steam, if such discharge is to the sewer. A separate individual vent for the purpose of exhausting steam to the outside atmosphere shall be provided.~~
- (c) ~~The water inlet on instrument and utensil sterilizers shall be of the over-the-rim type or shall be protected with approved vacuum breakers (see c-(4) above); the waste line shall be provided with an open funnel fitting having an air gap of not less than 2 inches; and the vent, if provided, shall be separate and not connected to any other vent.~~
- (d) ~~Bedpan washers and sterilizers shall be of such design and so installed that a maximum water level is determined, and the water inlets, both hot and cold, shall be protected against back-siphonage (see c-(2) or c (4) above).~~

(c) ~~Water distilling equipment. The waste pipe, the discharge line from the cooling coil, and the steam-condensate pipe (if it does not return to the heating plant) shall be provided with an open funnel fitting having an air gap of not less than 2 inches.~~

For plumbing systems and installations, see Part XX of these requirements.

(17-2.3) ~~3. Part XVI. Tuberculosis Hospital requirements shall apply only if a tuberculosis department is provided.~~

(17-2.4) ~~4.~~

PART XX--DESIGN AND CONSTRUCTION STANDARDS
FOR NEW HOSPITALS

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PART XX--DESIGN AND CONSTRUCTION STANDARDS

(20-1) Section A--Applicability of these Standards

These standards shall apply to all new hospitals and major alterations and additions to existing hospitals. (Major alterations are those that are not defined as minor alterations in Section 20-2.2 herein.) Hospitals shall refer to the Health Facilities Planning Board for appropriate action.

In the case of types of hospitals not specifically treated herein the standards for general hospitals shall apply, with due allowance being made for the specialized or unusual requirements of the particular hospital involved.

(20-2) Section B--Submission of plans for new construction, alterations or additions to existing facility

(20-2.1) 1. New Construction, Addition, or Major Alteration

(a) When construction is contemplated, either for new buildings or additions or material alterations to existing buildings coming within the scope of these standards, design development drawings and outline specifications shall be submitted to the Department for review. Approval of design development drawings and specifications shall be obtained from the Department prior to starting final working drawings and specifications. Comments or approval shall be provided within thirty days of receipt by the Department.

(b) The final working drawings and specifications shall be submitted to the Department for review and approval prior to beginning of construction. For final approval to remain valid, contracts must be signed within one year of approval date. Alternate methods of design development and construction may be acceptable subject to the approval of the Department. Comments or approval shall be provided within 30 days of receipt by the Department.

The Department shall be notified of the award of construction contracts.

(c) Any contract modifications which affect or change the function, design, or purpose of a facility shall be submitted to the Department for approval prior to authorizing the modifications. Comments or approval shall be provided within 30 days of receipt by the Department.

(d) The Department shall be notified when construction has been completed or whenever any area is occupied.

(e) As built drawings should be maintained.

2. Minor Alterations and Remodeling

Minor alterations or remodeling changes which do not affect the structural integrity of the building, which do not change functional operation, which do not affect fire safety, and which do not add beds or facilities over those for which the hospital is licensed need not be submitted for approval.

(20-2.3)

3. Alterations of Water Supply, Plumbing and Drainage

No system of water supply, plumbing, sewage, garbage or refuse disposal shall be installed, nor any such existing system materially altered or extended until complete plans and specifications for the installation, alteration or extension have been submitted to the Department and have been reviewed and approved.

(20-2.4)

4. Codes and Standards

(a) General

Nothing stated herein shall relieve the sponsor from compliance with building codes, ordinances, and regulations which are enforced by city or county jurisdictions. Where such codes, ordinances, and regulations are not in effect, the sponsor shall consult one of the national building codes generally used in the area, provided that the requirements of the national code are consistent with the minimum requirements set forth herein.

- (b) List of referenced codes and standards. The latest editions of the codes cited shall be used as indicated after review by the Department and after consultation with the Illinois Hospital Licensing Board or its delegated representatives:

State of Illinois Codes:

Standard Specifications for
Facilities for the Handicapped,

Boiler Safety Act and Boiler
Rules and Regulations

Rules and Regulations for Food
Service Sanitation

Illinois Rules and Regulations for
Fire Prevention and Safety, 1973

Illinois State Plumbing Code,
1975

State of Illinois Safety Glazing
Materials Act, 1971

Other Codes:

American Society for Testing
and Materials (ASTM)
Standard No. E85 Method of
Test for Surface Burning
Characteristics of Building
Materials

National Fire Protection Association
(NFPA) Standard No. 101 Life Safety
Code and all appropriate references
under Appendix "B", 1976

American Society for Testing
and Materials (ASTM)
Standard No. E90
Recommended Practice for
Laboratory Measurement of
Airborne Sound Transmission
Loss of Building Floors
and Walls

National Fire Protection Association
(NFPA) Standard No. 70
National Electrical Code, 1975

National Bureau of Standards
(NBS) Technical Note 708 -
Appendix II
Test Method for Measuring the
Smoke Generation Characteristics
of Solid Materials

American Society of Heating,
Refrigerating and Air
Conditioning Engineers (ASHRAE)
Handbook of Fundamentals, 1975

American Society of Heating,
Refrigerating and Air
Conditioning Engineers (ASHRAE)
Standard No. 52-68
Methods of Testing Air Cleaning
Devices Used in General
Ventilation for Removing
Particulate Matter, 1968

Compressed Gas Association (CGA)
Pamphlet P-2.1
Standard for Medical-Surgical
Vacuum Systems in Hospitals

DOP Penetration Test Method
MIL STD No. 282
Filter Units, Protective
Clothing, Gas-Mask Components
and Related Products: Performance
Test Methods

International Conference of
Building Officials (CIBO)
Uniform Building Code Vol. 1,
1976

National Council on Radiation
Protection (NCRP)
Report No. 33
Medical X-ray and Gamma Ray
Protection for Energies Up to
10 MeV Equipment Design and Use

National Council on Radiation
(NCRP) Report No. 34
Medical X-ray and Gamma Ray
Protection for Energies Up to
10 MeV Structural Shielding
Design and Evaluation

Public Health Service Publication
No. 934
Food Service Sanitation Manual, 1962

Underwriters' Laboratories, Inc.
(UL) Publication No. 181
Air Ducts

National Association of Plumbing-
Heating-Cooling Contractors (PHCC)
National Standard Plumbing Code

American Standards Specifications
for Making Buildings and Facilities
Accessible to, and Usable by, the
Physically Handicapped, 1968

(c) Exceptions

1. The recommendations of the Uniform Building Code shall apply insofar as such recommendations are not in conflict with the standards set forth in these requirements, or with the National Fire Protection Association Code 101, Life Safety Code.
2. The portions of the Uniform Building Code requiring: automatic extinguishing systems in all hospitals, smoke detectors in all patient rooms, and automatic door closers on all patient room doors are hereby specifically excluded from these requirements.

(d) Availability of Codes

The codes and standards referenced in this Act can be ordered from the various agencies at the addresses listed below.

Superintendent of Documents
U. S. Government Printing Office
Washington, D.C. 20402
(For Federal Government
Publications)

State of Illinois
Capital Development Board
State Office Building
Springfield, Illinois 62706

State of Illinois
Department of Law Enforcement
Division of Fire Prevention
State Armory, Room 610
Springfield, Illinois 62704

State of Illinois
Consumer Health Protection
535 West Jefferson Street
Springfield, Illinois

State of Illinois
Department of Law Enforcement
Division of Boiler Inspection
State Armory, Room 302
Springfield, Illinois 62704

American National Standards
Institute
1430 Broadway
New York, New York 10018

American Society for Testing
and Materials
1916 Race Street
Philadelphia, Pennsylvania 19103

American Society of Heating,
Refrigerating, and Air
Conditioning
United Engineering Center
345 East 47th Street
New York, New York 10017

Compressed Gas Association
500 Fifth Avenue
New York, New York 10036

International Conference of Building
Officials
5360 South Workman Road
Whittier, California 90601

Naval Publications and Form Center
5801 Tabor Avenue
Philadelphia, Pennsylvania 19120
(for DOP Penetration Test Method)

National Association of Plumbing-
Heating
Cooling Contractors
1016 20th Street, N.W.
Washington, D.C. 20036

National Council on Radiation
Protection and Measurement
P. O. Box 30175
Washington, D.C. 20014

National Fire Protection Association
470 Atlantic Avenue
Boston, Massachusetts 02210

Underwriters' Laboratories, Inc.
207 East Ohio Street
Chicago, Illinois 60611

American Standards Association, Inc.
10 East 40th Street
New York 16, New York

(20-3) Section C -- Preparation of Drawings and Specifications -- Submission Requirements

The preparation of drawings and specifications shall be executed by or be under the immediate supervision of an architect registered in the State of Illinois.

The requirements contained herein have been established for the guidance of the hospital and the architect to provide a standard method of preparation of drawings and specifications.

(20-3.1) 1. First stage submission--Design Development Drawings and Outline Specifications.

- (a) Development of the preliminary sketch plans indicating in detail the assignment of all spaces, size of areas and rooms, indicating in outline, the fixed and movable equipment and furniture.

The plans shall be drawn at a scale sufficiently large to clearly present the proposed design.

The drawings shall include (1) a plan of each floor including the basement or ground floor, (2) roof plan, (3) plan showing roads, parking areas, sidewalks, etc., (4) elevations of all facades, (5) sections through the building, (6) all adjacent areas clearly labeled if addition or alteration, and (7) fire and smoke separation diagrams.

- (b) Outline specifications shall provide a general description of the construction including finishes; acoustical material, its extent and type; extent of the conductive floor covering; heating and ventilating systems; and the type of elevators.
- (c) The total gross floor area and bed count shall be shown on the drawings.
- (d) A brief narrative of the proposed program.

(20-3.2) 2. Second Stage Submission-Working Drawings and Specifications.

- (a) All working drawings shall be well prepared so that clean and distinct prints may be obtained; accurately dimensioned and include all necessary explanatory notes, schedules and legends. Working drawings shall be complete and adequate for contract purposes. Separate drawings shall be prepared for each of the following branches of work: Architectural, Structural, Mechanical, Electrical. They shall include or contain the following:

(1) Architectural Drawings.

- (a) Site plan showing all new topography, newly established levels and grades, existing structures on the site (if any), new buildings and structures, roadways, walks, and the extent of the areas to be landscaped. All structures and improvements which are to be removed under the construction contract shall be shown.

- (b) Plan of each floor and roof.
 - (c) Elevations of each facade.
 - (d) Sections through building.
 - (e) Elevators and dumbwaiters. Drawings delineating shaft details and dimensions, sizes of cab platforms and doors, travel distances including elevation height of landings, pit sizes, and machine rooms.
 - (f) Kitchens, laundry, laboratories, special care areas, and similar areas shall be detailed at a scale to show the location, type, size and connection of all fixed and movable equipment.
 - (g) Scale details as necessary; scale details to one and one-half inches to the foot may be necessary to properly indicate portions of the work.
 - (h) Schedule of finishes.
- (2) Structural Drawings.
- (a) Plans of foundations, floors, roofs and all intermediate levels shall show a complete design with sizes, sections, and the relative location of the various members. Schedule of beams, girders and columns.
 - (b) Floor levels, column centers, and off-sets shall be dimensioned.
 - (c) Special openings and pipe sleeves shall be dimensioned or otherwise noted for easy reference.
 - (d) Details of all special connections, assemblies and expansion joints shall be given.
 - (e) Notes on design data shall include the name of the governing building code, values of allowable unit stresses, assumed live loads, wind loads, earthquake load, and soil bearing pressures.
 - (f) For special structures, a stress sheet shall be incorporated in the drawings showing:
 - (1) Outline of structure.
 - (2) All load assumptions used.
 - (3) Stresses and bending moments separately for each kind of loading.
 - (4) Maximum stress and/or bending moment for which each member is designed, when not readily apparent from (3).
 - (5) Horizontal and vertical reactions at column bases.

(3) Mechanical Drawings. These drawings with specifications shall show the complete heating, cooling and ventilation systems; plumbing, drainage, stand pipe, and sprinkler systems.

(a) Heating, Cooling and Ventilation.

- (1) Radiators, coils and steam heated equipment, such as sterilizers, warmers and steam tables.
- (2) Heating and steam mains and branches with pipe sizes.
- (3) Diagram of heating and steam risers with pipe sizes.
- (4) Sizes, types and heating surfaces of boilers, furnaces, with stokers and oil burners, if any.
- (5) Pumps, tanks, boiler breeching and piping and boiler room accessories.
- (6) Air conditioning systems with required equipment, water and refrigerant piping, and ducts.
- (7) Supply and exhaust ventilating systems with connections and piping.
- (8) Air quantities for all room supply and exhaust ventilating duct openings.

(b) Plumbing, Drainage and Stand Pipe Systems.

- (1) Size and elevation of: street sewer, house sewer, house drains, street water main and water service into the building.
- (2) Location and size of soil, waste, and vent stacks with connections to house drains, cleanouts, fixtures and equipment.
- (3) Size and location of hot, cold and circulating mains, branches, and risers from the service entrance, and tanks.
- (4) Riser diagram of all plumbing stacks with vents, water risers and fixture connections.
- (5) Gas, oxygen and similar piped systems.
- (6) Standpipe and sprinkler systems.
- (7) All fixtures and equipment that require water and drain connections.

- (4) Electrical Drawings. Drawings shall show all electrical wiring, outlets, and equipment which require electrical connections.
- (a) Electrical service entrance with switches and feeders to the public service feeders, characteristics of the light and power current, transformers and their connections if located in the building.
 - (b) Location of main switchboard, power panels, light panels and equipment. Feeder and conduit sizes shall be shown with schedule of feeder breakers or switches.
 - (c) Light outlets, receptacles, switches, power outlets, and circuits.
 - (d) Telephone layout showing service entrance, telephone switchboard, strip boxes, telephone outlets and branch conduits as approved by the telephone company. Where public telephones are used for inter-communication, provide separate room and conduits for racks and automatic switching equipment as required by the telephone company.
 - (e) Nurses' call systems with outlets for beds, duty stations, corridor signal lights, annunciators and wiring diagrams.
 - (f) Doctors' call and doctor' in-and-out systems with all equipment wiring, if provided.
 - (g) Fire alarm system with stations, signal devices, control board and wiring diagrams.
 - (h) Emergency electrical system with outlets, transfer switch, source of supply, feeders, and circuits.
 - (i) All other electrically operated systems and equipment.

(5) Additions to Existing Structures.

- (a) Procedures and requirements for working drawings and specifications to be followed (See Sec. 20-2) and in addition the following information shall be submitted.
 - (1) Type of activities within the existing building and distribution of existing beds, etc.
 - (2) Type of construction of existing building and number of stories in height.
 - (3) Plans and details showing attachment of new construction to the existing structure.
 - (4) Mechanical and Electrical systems tying into existing system.
 - (b) The Department may require submission of architectural drawings of all or any part of the existing structure.
- (6) Specifications. Specifications shall supplement the drawings and shall comply with the following:
- (a) The specifications shall fully describe, except where fully indicated and described on the drawings, the materials, workmanship, the kind, sizes, capacities, finishes, and other characteristics of all materials, products, articles and devices.
 - (b) The specifications shall include:
 - Cover or title sheet.
 - Index.
 - Invitation for bids.
 - General conditions.
 - General requirements.
 - Sections describing material and workmanship in detail for each class of work.
 - Bid form.

(20-4) Section D--General Hospital Standards
Minimum Requirements in the General Hospital are:

(20-4.1) 1. Administration and Public Areas

a. Main Entrance:

Designed to accommodate the physically handicapped.

b. Lobby:

It shall include: a reception and information counter or desk, waiting space(s), public toilet facilities, public telephones, and drinking fountain(s).

c. Interview Space(s):

Spaces for private interviews relating to social service, credit or admissions.

d. General or Individual Office(s):

Office(s) for business transactions, medical and financial records and administrative and professional staffs.

e. Multipurpose Room(s):

For conferences, meetings and education purposes including provision for the use of visual aids.

f. Medical Library Facilities.

g. Storage Areas.

(20-4.2) 2. Medical Records Unit

Provide adequate space for reviewing, dictating, sorting, recording, and storing of medical records.

(20-4.3) 3. Adjunct Diagnostic and Treatment

a. Laboratory Suite.

Laboratory facilities should be provided to meet the workload described in the narrative program. These may be provided within the Hospital or through an effective contract arrangement with a nearby laboratory service. If laboratory services are provided by contractual arrangement, then at least the following minimum services shall be available within the Hospital. (For additional requirements, see part V of these Requirements).

1. Laboratory work counter(s) with appropriate services.
2. Lavatory(ies) or counter sink(s) equipped for handwashing.
3. Storage cabinet(s) or closet(s).
4. Blood storage facilities.

5. Specimen and sample collection facilities. Urine collection rooms equipped with a water closet and lavatory. Blood collection facilities with space for a chair and work counter.

b. Morgue and Autopsy Suite.

These facilities shall be accessible to an outside entrance and shall be located to avoid movement of bodies through public areas.

The following shall be provided when autopsies are performed within the Hospital:

1. Refrigerated facilities for body holding.

2. Autopsy Room:

This room shall contain a work counter with sink equipped for handwashing; storage space for supplies, equipment, and specimens; and an autopsy table.

If no autopsies are performed in the Hospital, a well ventilated bodyholding room shall be provided.

c. Radiology Suite.

Facilities shall be provided for radiology purposes as required by the Narrative program. (For additional requirements see part VI of these Requirements).

The suite shall contain the following elements:

1. Radiographic room(s).
2. Film processing facilities.
3. Viewing and administration area(s).
4. Film storage facilities.
5. Toilet room with handwashing facilities directly accessible from each fluoroscopy room without entering the general corridor area.
6. Dressing area(s) with access to toilets, and facilities for patient's belongings.
7. Waiting room or alcove.

8. Radiation protection requirements for X-ray and gamma ray installations shall conform with N.C.R.P. reports No. 33 and 34. Provisions shall be made for testing the completed installation and correcting defects before use.

9. X-ray installations for fixed and mobile x-ray equipment:

Shall conform to article 660, X-ray Equipment of NFPA Standard 70 (The National Electrical Code).

d. Pharmacy Suite.

The size and type of services to be provided in the pharmacy will depend upon the type of drug distribution system to be used in the Hospital and whether the Hospital proposes to provide, purchase, or share pharmacy services with other Hospitals or other medical facilities. This shall be explained in the Narrative program. (For additional requirements see part XVIII of these Requirements).

Provisions shall be made for the following:

1. Administrative Functions.

These include requisitioning, recording and reporting, receiving, storage (including refrigeration), and accounting.

2. Quality Control Area.

(If bulk compounding and/or packaging functions are performed.)

3. Locked Storage for Drugs and Biologicals.

4. Dispensing Area.

5. Handwashing Facilities.

If required by the program, provisions shall be made for the following:

1. A Drug Information area for reference materials and personnel.

2. A Sterile Products Area for compounding of I.V. admixtures and other sterile dosage forms. Provide a separate sink for handwashing in this area.

e. Physical Therapy Suite.

Appropriate services may be planned and arranged for shared use by occupational therapy patients and staff.

If a physical therapy suite is required by the Narrative Program, the following shall be provided:

1. Office Space(s).
 2. Waiting Space.
 3. Treatment area(s) for such modalities as thermotherapy, diathermy, ultrasonics, and hydrotherapy. Provide cubicle curtains around each individual treatment area. Provide handwashing facility(ies). One lavatory or sink may serve more than one cubicle.
 4. Facilities for collection of wet and soiled linen and other material shall be provided.
 5. Exercise Area.
 6. Storage for clean linen, supplies, and equipment.
 7. Patients' Dressing Areas and Toilet Rooms.
 8. Wheelchair and stretcher storage.
 9. Showers, lockers, and service sinks shall be provided as required by the Narrative program.
- f. Occupational Therapy Suite.

Appropriate elements may be planned and arranged for shared use by physical therapy patients and staff.

If an occupational therapy suite is required by the Narrative Program, the following elements shall be provided:

1. Office space(s).
2. Activities area(s) equipped with a sink or lavatory.
3. Storage for supplies and equipment.
4. Patients' toilet rooms.

(20-4.4) 4. Nursing Unit

The requirements under this heading do not apply to special care areas such as recovery rooms and intensive care areas, and newborn care areas.

a. Patient Rooms.

1. Each patient room shall be an outside room with not less than 10% of its floor area devoted to windows. Each patient room shall communicate directly with an exiting corridor.
2. Minimum room areas shall be: 100 square feet clear in one-bed rooms, and 80 square feet clear per bed in

multibedrooms (no rooms shall have more than four beds). Clear is defined as the usable dimensions of the room excluding the vestibule and toilet areas as well as closets.

3. A minimum of 3'0" clear at the foot and sides of each bed shall be provided.
4. Each patient room shall have access to a toilet room without entering the corridor.
5. One toilet room shall serve not more than four beds and not more than two patient rooms.
6. The toilet room shall contain a water closet and a lavatory. The lavatory may be omitted from a toilet room which serves not more than two single bed rooms if each such single bed room contains a lavatory.
7. Each patient shall have a wardrobe, locker, or closet that is suitable for hanging and storing personal effects.
8. Visual privacy shall be provided each patient bed in multibed rooms.

b. Nurses Service Center.

The requirements under the nurses service center shall be provided either as part of a centralized cluster serving more than one nursing unit, or shall be used as supportive areas within a self-contained nursing unit.

1. A nurses station with a work counter, storage areas, and communications equipment.
2. A nurses office.
3. Handwashing facilities convenient to both the nurses station and the drug distribution station.
4. Charting facilities for nurses and doctors, including a work counter and charting racks.
5. A lounge and toilet room(s) for staff.
6. Closets or compartments for the safekeeping of coats and personal effects of nursing personnel.
7. A multipurpose room for conferences, demonstrations, and consultation. This room may be located outside the nursing unit, but within the hospital.
8. Accessibility to a room for the examination and treatment of patients. This room may be omitted if all patient rooms are single-bed rooms. This room shall have a minimum floor area of 100 square feet excluding spaces for vestibule(s), toilet rooms (if provided), and work counter(s). The room shall contain a lavatory, a work counter, storage facilities, and a writing space.

9. At least one tub or shower shall be provided for each 12 beds which do not have bathing facilities within the patients' rooms. Each tub or shower shall be in an individual room or enclosure which provides space for the private use of the bathing fixture and for drying and dressing.
10. A Nourishment Station with a sink equipped for hand-washing, equipment for serving nourishment between scheduled meals, refrigerator, storage cabinets, and units to provide ice for patient's service and treatment.
11. A Drug Distribution Station for convenient and prompt 24-hour distribution of medicine to patients. This may be from a medicine preparation room or unit, a self-contained medicine dispensing unit, or by another approved system. If a medicine preparation room or unit is used, it shall be under the nursing staff's visual control and contain a work counter, refrigerator, and locked storage for biologicals and drugs. A medicine dispensing unit may be located in an alcove under direct control of the nursing or pharmacy staff.

c. Service Area.

1. A Clean Workroom or a Clean Holding Room shall be provided in each nursing unit. The Clean Workroom shall contain a work counter, handwashing facility(ies), and storage facilities. The Clean Holding Room shall be part of a system for storage and distribution of clean and sterile supplies and materials.
2. Clean Linen Storage. Provide a separate designated area within the Clean Workroom. If a cart system is used, the storage of the cart may be in an adjacent alcove.
3. Provide parking for stretchers and wheelchairs out of the path of normal traffic.
4. A Soiled Workroom or Soiled Holding Room shall be provided. The Soiled Workroom shall contain a clinical sink or equivalent flushing rim fixture, a handwashing sink, a waste receptacle, and a linen receptacle. The Soiled Holding Room shall be part of a system for the collection and disposal of soiled materials. If bed pan flushing attachments are used on every patient room toilet, a clinical sink is not required in the Soiled Workroom, but should be considered.
5. Provide room for the storage of equipment such as I.V. stands, inhalators, mattresses, and walkers.

6. Space shall be provided for the storage of required emergency equipment such as a crash cart. This equipment shall be under the direct control of the nursing staff.
 7. Sitz baths shall be provided when required by the program.
- d. Isolation Room(s).

There shall be a room or rooms as required by the Program Narrative for the isolation of patients with known or suspected communicable disease(s). Each such room shall have an individual toilet equipped with a bedpan flushing attachment and a lavatory. Isolation Rooms shall be provided with an anteroom equipped with a handwashing sink, trimmed with valves which can be operated without the use of hands, storage spaces for clean and soiled materials, and a space for gowning. There shall be only one patient per room. All Isolation Rooms shall be otherwise planned as required for a standard patient room.

- e. Room(s) for Disturbed Patients.

Every hospital which does not have a psychiatric nursing unit shall provide facilities for the care of disturbed patients, usually for less than twenty four hours duration. The design shall provide for close observation, and shall minimize the dangers of patient escape, suicide, or injury. This may be provided in a special care room used for multiple purposes. This room shall be located either in the Emergency Unit or in a private room in a Medical Nursing Unit, or as otherwise provided by the Program Narrative.

(20-4.5) 5. Intensive Care Units

Facilities for the intensive care of medical, surgical, or cardiac patients have critical space and staffing requirements. Since many of these patients are often acutely aware of the surrounding environment, they may be affected by it. Means of controlling unnecessary noise is important. At times each patient may require individual privacy, although each is required to be under constant staff observation. Windows shall be provided so that each patient may be cognizant of the outdoor environment. Beds may be arranged so that one window may serve more than one patient.

When Intensive Care Units are planned, they shall provide the following:

- a. Patient Rooms.

Cardiac intensive care, medical intensive care, and surgical intensive care patients may be housed in either single-bed rooms or multibed rooms; however, at least one single-bed room shall be provided. All beds shall be arranged to permit visual observation by nursing staff. Patient rooms shall meet the following requirements:

1. Clearance between beds shall be not less than 6'-0". Single-bed rooms shall have a minimum area of 120 square feet and a minimum dimension of 10'-0".

2. Viewing panels shall be provided for nursing staff observation of patients. Curtains or other means shall be provided to cover the viewing panels when the patient requires visual privacy. Glazing in viewing panels shall be safety glass, wire glass, or clear plastic to reduce the hazard from accidental breakage except that wire glass is required in glazed openings to corridors or passageways used as means of egress for fire safety purposes.
3. An I.V. solution support shall be provided for each patient so that the solution is not suspended directly over the patient.
4. A lavatory equipped for handwashing shall be provided in each private patient room. In multibed rooms, provide not less than one lavatory for each six beds.
5. A nurses' calling system (see Section 20-3.2(a)4) shall be provided.
6. Each cardiac intensive care patient shall be provided with a toilet facility which is directly accessible from the bed area. The water closet shall have sufficient clearance around it to facilitate its use by patients needing assistance. Portable water closet units are permitted within patient rooms. If portable units are used, facilities for servicing and storing them shall be conveniently located to the cardiac care unit.

b. Service Areas

The following service areas shall be located in or readily available to each Intensive Care Unit. One area may serve two or more adjacent Intensive Care Units. The size and location of each service area will depend upon the number of beds to be served.

1. Nurses' Station. It shall be located to permit monitoring or visual observation of each patient served.
2. Handwashing Facilities. These shall be convenient to nurses' station and drug distribution station.
3. Charting Facilities, furnished with work counter(s) and charting racks.
4. Staff's Toilet Room. This room shall contain a water closet and a lavatory equipped for handwashing.
5. Closets or compartments for the safekeeping of coats and personal effects of nursing personnel. These shall be located at or near the nurses' station.
6. Clean Workroom (or a system for storage and distribution of clean and sterile supply materials). The Clean Workroom shall contain a work counter, handwashing facility, and storage facilities.

7. Soiled Workroom or Soiled Holding Room. The Soiled Workroom shall contain a clinical sink or equivalent flushing rim fixture, sink equipped for handwashing, work counter, waste receptacle, and linen receptacle. A Soiled Holding Room shall be part of a system for collection and disposal of soiled materials and shall be similar to the Soiled Workroom except that the clinical sink and work counter may be omitted.
8. Facilities for washing or flushing bedpans provided within the unit.
9. Drug Distribution Station. Provision shall be made for convenient and prompt 24-hour distribution of medicine to patients. This may be from a medicine preparation room or unit, a self-contained medicine dispensing unit, or by another approved system. If used, a medicine preparation room or unit shall be under the nursing staff's visual control and contain a work counter, a sink, refrigerator, and locked storage for biologicals and drugs. A medicine dispensing unit may be located at the Nurses' Station, in the Clean Workroom, or in an alcove or other space under direct control of the nursing or pharmacy staff.
10. Clean Linen Storage. Provide a storage closet or a designated area within the Clean Workroom. If a closed cart system is used, storage may be in an alcove.
11. Nourishment Station. This shall contain a sink equipped for handwashing, equipment for serving nourishment between scheduled meals, refrigerator, storage cabinets, and units to provide ice for patients's service and treatment.
12. Emergency Equipment Storage. Space shall be provided for a "crash cart" and similar emergency equipment.
13. Equipment Storage Room. Provide space for necessary equipment.
14. Patients' Storage Facilities. Provisions shall be made for the storage of patients' personal effects. These may be located outside the intensive care unit.

c. Waiting Room.

A waiting room shall be provided for family members and others who may be permitted to visit the intensive care patients. A toilet room, public telephone, and seating accommodations for long waiting periods shall be provided.

Young children and adolescents shall be housed in a nursing unit separate from adults unless special allowance has been made in the narrative program. This unit shall meet the following requirements:

(a) General Unit Requirements Including Patient Rooms.

The requirements noted in Section 20-4.4 shall be applied to a Pediatric and Adolescent Nursing Unit containing hospital beds, youth beds, or cribs.

(b) Nursery As Called For In The Narrative Program:

Each nursery serving pediatric patients shall contain no more than eight bassinets. The minimum clear floor area per bassinet shall be 40 square feet. Each room shall contain a lavatory equipped for handwashing, nurses' emergency calling system as per section 20-10.7 and glazed viewing windows for observing infants from public areas and workroom.

(c) Nursery Workrooms as called for in the Narrative Program:

Each nursery shall be served by a connecting workroom. One workroom may serve more than one nursery. It shall contain gowning facilities for staff and housekeeping personnel.

(d) Examination and Treatment Room.

It shall contain a work counter, storage facilities, and lavatory equipped for handwashing.

(e) Service Areas.

The Service Areas in the Pediatric and Adolescent Nursing Unit shall conform to the conditions listed in section 20-4.4 and shall meet the following additional conditions:

- (1) Multipurpose or individual area(s) shall be provided for dining, educational, and play or other patient care purposes.
- (2) Space for preparation or storage of infant formula shall be provided in the unit or in a convenient location nearby.
- (3) Patients' toilet room(s) shall be provided convenient to multipurpose area(s) and central bathing facilities.
- (4) Storage closets or cabinets for toys and for educational and recreational equipment shall be provided.
- (5) Storage space shall be provided for replacement of youth and adult beds to provide flexibility for interchange of patient accommodations.

(f) Fixtures and Accessories.

- (1) Attention shall be given to other details affecting small children as required by the program.

- (2) Switches and plugs for critical equipment shall be designed to preclude shock and/or located for inaccessibility by small children.
- (3) Toilets and washbasins shall be suitable for use by small children as described in the program narrative.

(20-4.7)7.

Psychiatric Nursing Unit

Units intended for psychiatric or other types of disturbed patient nursing care shall provide a safe and secure facility for patients needing close supervision to minimize their hiding, escape, injury, or suicide. The unit shall be designed to facilitate care of ambulatory inpatients, to permit flexibility in arranging various types of therapy, and to present as noninstitutional an atmosphere as possible.

Each Nursing Unit shall provide the following:

(a) Patient Rooms and Nurses Service Center.

The requirements noted in section 20-4.4 shall be applied to patient rooms and nurses service center in Psychiatric Nursing Units except as follows:

- (1) A nurses' calling system is not required. Other types of communications systems may be utilized.
- (2) Provision for visual privacy is not required.

(b) Service Areas.

The Service Areas noted in section 20-4.4 shall be provided or made available to each Psychiatric Nursing Unit except that space for stretchers and wheelchairs is not required and clinical sinks or equivalent may be installed but are not required. The following elements shall be provided within and for the exclusive use of the unit:

- (1) Consultation Room(s).
- (2) Space for Dining, Recreation, and Occupational Therapy. The total area for these purposes shall not be less than 40 square feet per patient.
- (3) Storage closets or cabinets for recreational and occupational therapy equipment.
- (4) Storage for patients' clothing.

(c) Additional Services.

Appropriate additional services shall be provided as determined by the Narrative Program.

(20-4.8) 8. Newborn Care Unit.

Newborn infants shall be housed in nurseries (as described below) which are conveniently located to the post-partum nursing unit and obstetrical facilities. The nurseries shall be located and arranged to preclude unrelated traffic. No nursery shall open directly into another nursery. The requirements of Part XV of these Requirements shall apply to this section in its entirety.

The units shall meet the following requirements:

a. General. Each Nursery Shall Contain:

1. Lavatory(ies) trimmed with valves which are aseptically operated (i.e. knee or foot controls) at the rate of one for each eight bassinets.
2. A nurses' emergency calling system.
3. Bassinets shall be provided in a number at least equal to the number of post-partum beds.
4. Provide glazed observation windows to permit viewing infants from public areas and from workrooms.

b. Full-Term Nursery.

It shall contain no more than 12 bassinets; however, this number may be increased to 16 if the extra bassinets are of the isolation type. The minimum floor area shall be 30 square feet for each regular bassinet and 40 square feet for each isolation type bassinet. When a "rooming-in" program is used, the total number of bassinets provided in these units may be appropriately reduced, but the full-term nursery may not be omitted.

c. Special Care and Observation Nursery.

1. A Nursery to provide special care for infants in distress is required in a hospital having 25 or more maternity beds, unless equivalent facilities for such infants are conveniently available elsewhere. The floor area per bassinet shall be as determined by the program but be not less than 40 square feet. Additional area shall be provided to accommodate workroom functions if these are located within the nursery area.
2. Where a separate Special Care Nursery is provided, it shall have its own workroom areas.

d. Work Room.

Each Nursery shall be served by a connecting workroom. It shall contain gowning facilities at the entrance for staff and housekeeping personnel, work space with counter, refrigerator, lavatory or sink equipped for handwashing, and storage. One workroom may serve more than one nursery. The workroom which serves the Special Care Nursery may be omitted if equivalent work area and facilities are provided within the Nursery in which case the gowning facilities shall be located near the entrance to the Nursery and shall be separated from the work area.

e. Examination and Treatment Room or Space for Infants.

It shall contain a work counter, storage, and lavatory equipped for handwashing trimmed with valves which are aseptically operated (i.e. knee or foot controls) and shall be located so that doctors need not enter Nurseries. It may serve more than one Nursery and may be located in the workroom. If the examination and treatment of infants will take place in the individual bassinets, space for physicians' and nurses' gowning shall be provided as well as a conveniently accessible handwashing sink trimmed with valves which are aseptically operated (i.e. knee or foot controls).

f. Infant Formula Facilities.

Where the Narrative Program requires it, the hospital shall provide the following:

1. On-site Formula Preparation.

- (a) Clean-up facilities for washing and sterilizing supplies. These shall consist of a lavatory or sink equipped for handwashing, a bottle washer, work counter space, and an equipment sterilizer.
- (b) A separate room for preparing infant formula. It shall contain a lavatory or sink equipped for handwashing, refrigerator, work counter, formula sterilizer, and storage facilities. It may be located near the Nurseries or at another appropriate place within the hospital. No direct access from the formula room to a Nursery or to a Nursery workroom will be permitted.

2. Commercially Prepared Formula. If a commercial infant formula is used, the storage and handling may be done in the Nursery Workroom or in another appropriate room which has a work counter, a sink equipped for handwashing, and storage facilities.

g. Janitors Closet.

A closet for exclusive use of the housekeeping staff in maintaining the Nursery Unit shall be provided. It shall contain a floor receptor or service sink and storage space for housekeeping equipment and supplies.

- h. Gowning and Scrub Areas: equipped with lockers for doctors' and nurses' belongings, cabinets for clean gowning, receptacles for used gowns, and handwashing sinks aseptically operated without the use of hands.
- i. Clean Utility Area(s) with work counter(s) and handwashing sink(s).
- j. Soiled Utility Area(s) with work counter(s), handwashing sink(s), clinical service sink(s) or equivalent flushing rim fixture(s), and space for storage hamper(s) (one for diapers and one for soiled linen provided at a ratio of one for each four bassinets or fraction thereof).
- k. Storage space(s) for replacement bassinets, phototherapy units, and other large items. These storage area(s) may be located either within the unit or in the central supplies storage.

(20-4.9) 9. Surgical Suite

The number of operating rooms and recovery beds and the sizes of the service areas shall be based on the expected surgical workload. The Surgical Suite shall be located and arranged to preclude unrelated traffic through the suite. The requirements of 15-2.7 (Combined Facilities) shall be used for the Surgical Suite wherever applicable.

The Suite shall provide the following elements:

a. General Operating Room(s).

Each room shall have a minimum clear area of 360 square feet exclusive of fixed cabinets and shelves. The minimum dimension shall be 18'-0". Provide a communications system connecting with the Surgical Suite Control Station. Provide at least 2 X-ray film illuminators in each room.

b. Room(s) for Surgical Cystoscopic and Other Endoscopic Procedures.

These rooms shall have a minimum clear area of 250 square feet exclusive of fixed cabinets and shelves. Additional clear space may be required by the Narrative Program to accommodate special functions in one or more of these rooms. Provide a communications system connecting with the Surgical Suite Control Station. Facilities for the disposal of liquid wastes shall be provided.

c. Fracture Rooms.

Fracture Rooms should be provided with an adjacent splint room. The fracture room may be located in the Emergency Department, the Surgical Suite, or as indicated in the Narrative Program.

d. Recovery Room.

The Recovery Room may be part of an approved combined surgical-obstetrical program (see Section 15-2.7, Combined Facilities).

1. Locate the Postoperative Recovery Room within or adjacent to the Surgical Suite. If possible, provide separate entrance and exit doors remote from each other to facilitate a one-way traffic flow within the Recovery Room.
2. There shall be a minimum of one recovery room bed for each operating room.
3. There shall be a minimum of 70 square feet per bed in open units. This area shall exclude the nursing station, work space, and storage area. In addition, a minimum of 4'-0" must be maintained between the sides of the beds, at least 3'-0" between the side of any bed and any wall or other fixed device, and at least 6 feet between the foot end of any bed and any other equipment or fixed device.

4. The Recovery Room shall have adequate lighting of the type to allow accurate observation of the patients.
5. A lavatory trimmed with valves operated without the use of hands, and a clinical sink shall be provided.
6. A soiled holding area shall be provided.
7. There shall be a nursing station within the Postoperative Recovery Room. Facilities for medical storage and preparation shall be provided.
8. Adequate storage and work space within or adjacent to the Recovery Room shall be available for necessary supplies and equipment.
9. Each bed site shall be adequately equipped with oxygen, suction and at least two duplex electrical outlets.

e. Service Areas.

Individual rooms shall be provided when so noted; otherwise alcoves or other open spaces which will not interfere with traffic may be used. Services may be shared with and organized as part of the obstetrical facilities if the approved Narrative Program reflects this sharing concept. There shall be no crosscirculation between the Surgical and Delivery Suites when using shared service areas. The following services shall be provided:

1. Control station located to permit visual surveillance of all traffic which enters the operating suite.
2. Supervisors office or station.
3. Sterilizing facility(ies) with high speed autoclaves conveniently located to serve all operating rooms. When the Narrative Program indicates that adequate provisions have been made for replacement of sterile instruments during surgery, sterilizing facilities in the Surgical Suite will not be required.
4. Drug Distribution Station. Provision shall be made for preparation of medication to be administered to patients.

5. Two scrub stations shall be conveniently located near each operating room. Scrub facilities shall be arranged to minimize any incidental splatter on nearby personnel or supply carts. Provide scrub sink which may be aseptically operated without the use of hands. (Wrist blades are not acceptable.)
6. Soiled Workroom for the exclusive use of the surgical suite staff (or a soiled holding room that is part of a system for the collection and disposal of soiled materials). The Soiled Workroom shall contain a clinical sink or equivalent flushing type fixture, work counter, sink equipped for handwashing, waste receptacle, and linen receptacle. A Soiled Holding Room shall be similar to the Soiled Workroom except that the clinical sink and work counter may be omitted.
7. Fluid waste disposal facilities. These shall be conveniently located with respect to the general operating rooms. A clinical sink or equivalent equipment in a Soiled Workroom or in a Soiled Holding Room would meet this requirement.
8. Clean Workroom or a Clean Supply Room. A Clean Workroom is required when clean materials are assembled within the Surgical Suite prior to use. A Clean Workroom shall contain a work counter, sink equipped for handwashing, and space for clean and sterile supplies. A Clean Supply Room shall be provided when the Narrative Program defines a system for the storage and distribution of clean and sterile supplies which would not require the use of a Clean Workroom.
9. Anesthesia Storage Facilities. Unless the Narrative Program and the official hospital board action prohibits in writing the use of flammable anesthetics, a separate room shall be provided for storage of flammable gases in accordance with the requirements detailed in The National Fire Protection Association Standards 56A-Inhalation Anesthetics and 56F-Nonflammable Medical Gases.
10. Anesthesia Workroom for cleaning, testing, and storing anesthesia equipment. It shall contain a work counter and sink.
11. Medical Gas Storage. Space for reserve storage of nitrous oxide and oxygen cylinders shall be provided.
12. Storage space for splints and traction equipment shall be provided for operating rooms equipped for orthopedic surgery.

13. Equipment Storage Room(s) for equipment and supplies used in Surgical Suite.
14. Staff Clothing Change Areas. Appropriate areas shall be provided for male and female personnel (orderlies, technicians, nurses, and doctors) working within the Surgical Suite. The areas shall contain lockers, showers, toilets, lavatories and space for donning scrub suits and boots. These areas shall be arranged to provide a one-way traffic pattern so that personnel entering from outside the Surgical Suite can change, shower, gown, and move directly into the Surgical Suite. Space for removal of scrub suits and boots shall be designed so that personnel using it will avoid physical contact with clean personnel.
15. Outpatient Surgery Change Areas. If the program requires outpatient surgery, a separate area shall be provided where outpatients change from street clothing into hospital gowns and are prepared for surgery. This shall include a waiting room, lockers, toilets, and clothing change or gowning area with a traffic pattern similar to that of the staff clothing change area.
16. Patients' Holding Area. In facilities with two or more operating rooms, a room or alcove shall be provided to accommodate stretcher patients waiting for surgery. This waiting area shall be under control of the Surgical Suite Control Station.
17. Stretcher Storage Area. This area shall be out of direct line of traffic.
18. Lounge and Toilet Facilities for Surgical Staff. These facilities shall be provided in hospitals having three or more operating rooms and shall be located to permit use without leaving the Surgical Suite. A Nurses' Toilet Room shall be provided near the Recovery Room(s).
19. Janitors' Closet. A closet containing a floor receptor or service sink and storage space for housekeeping supplies and equipment shall be provided exclusively for the Surgical Suite.

f. Central Sterilizing and Supply Room.

The Central Sterile Supplies shall be located either within the Surgical Suite or provided as a separate department within the hospital. The following shall be provided:

1. A receiving and clean-up room containing work space and equipment for cleaning medical and surgical equipment, and for disposal or processing of unclean material. Handwashing facilities operated without the use of hands shall be provided.
2. A Clean Workroom containing work space and equipment for sterilizing medical and surgical equipment and supplies.
3. Storage areas for clean supplies and for sterile supplies (these may be in the Clean Workroom).
4. Unsterile Supplies Storage Room (this may be located in another department).
5. Soiled or contaminated supply and equipment must be separated from the clean or sterilized supply and equipment.
6. Cart Storage Areas.
7. Facilities for cleaning and sanitizing carts may be centralized or departmentalized.

OBSTETRICS SUITE

The number of delivery rooms, labor rooms, recovery beds, and the sizes of the service areas shall depend upon the estimated obstetrical workload, and as indicated in the Narrative Program. The Obstetrical Suite shall be located and arranged to preclude unrelated traffic through the suite. The requirements of Part XV of these Requirements shall apply to this section.

a. Delivery Room(s).

Each Delivery Room shall have a minimum clear area of 300 square feet exclusive of fixed and movable cabinets and shelves. The minimum dimension shall be 16'-0" clear. The communications system shall be connected with the Obstetrical Suite Control Station. Separate resuscitation facilities (electrical outlets, oxygen, suction, and compressed air) shall be provided for newborn infants.

b. Labor Room(s).

These rooms shall be single or two-bed rooms with a minimum clear area of 80 square feet per bed. Labor beds shall be provided at the rate of two for each Delivery Room. In facilities having only one Delivery Room, two labor rooms shall be provided, one of which shall be large enough to function as an emergency delivery room. Each Labor Room shall contain a lavatory equipped for handwashing. Labor Rooms shall be arranged so that they are accessible from a Nurses Work Station and shall also be accessible to facilities for medication, handwashing, charting, and storage for supplies and equipment.

c. Recovery Room.

The Recovery Room may be part of an approved combined surgical-obstetrical program (see section 15-2.7, combined facilities).

1. Locate the Postpartum Recovery Room within or adjacent to the Obstetrics Suite. If possible, provide separate entrance and exit doors remote from each other to facilitate a one-way traffic flow within the recovery room.
2. There shall be a minimum of 70 square feet per bed. This area shall exclude the nursing station, work space, and storage area. In addition, a minimum 4'-0" must be maintained between the sides of the beds, at least 3'-0" between the side of any bed and any wall or other fixed device, and at least six feet between the foot end of any bed and any other equipment or fixed device.

3. The Recovery Room shall have adequate lighting of the type to allow accurate observation of the patients.
4. A lavatory operable without the use of hands, and a clinical sink shall be provided.
5. A Soiled Holding Area shall be provided.
6. There shall be a nursing station within the Postoperative Recovery Room. Facilities for medical storage and preparation shall be provided.
7. Adequate storage and work space within or adjacent to the Recovery Room shall be available for necessary supplies and equipment.
8. Each bed site shall be adequately equipped with oxygen, suction and at least two duplex electrical outlets.

d. Service Areas.

Individual rooms shall be provided when so noted; otherwise alcoves or other open spaces which will not interfere with traffic may be used. Services may be shared with and organized as part of the surgical facilities if the approved Narrative Program reflects this sharing concept. Service areas shall be arranged to avoid direct traffic between the operating and the delivery rooms. The following services shall be provided:

1. Control Station located to permit visual surveillance of all traffic which enters the obstetrics suite.
2. Supervisors Office or Station.
3. Sterilizing facility(ies) with high speed autoclave(s) conveniently located to serve all Delivery Rooms. When the Narrative Program indicates that adequate provisions have been made for replacement of sterile instruments during delivery, sterilizing facilities in the Delivery Suite will not be required.
4. Drug Distribution Station. Provision shall be made for preparation of medication to be administered to patients.
5. Two scrub stations shall be conveniently located near each Delivery Room. Scrub facilities shall be arranged to minimize any incidental splatter on nearby personnel or supply carts. Provide scrub sinks which may be aseptically operated without the use of hands. (Wrist blades are not acceptable.)

6. Soiled Workroom for the exclusive use of the Obstetrical Suite staff (or a soiled room that is part of a system for the collection and disposal of soiled materials). The Soiled Workroom shall contain a clinical sink or equivalent flushing rim fixture, work counter, sink equipped for handwashing, waste receptacle, and linen receptacle. A Soiled Holding Room shall be similar to the Soiled Workroom except that the clinical sink and work counter may be omitted.
7. Fluid Waste Disposal Facilities. These shall be conveniently located with respect to the delivery rooms. A clinical sink or equivalent flushing rim equipment in a Soiled Workroom or in a Soiled Holding Room would meet this requirement.
8. Clean Workroom or a Clean Supply Room. A Clean Workroom is required when clean materials are assembled within the Obstetrical Suite prior to use. A Clean Workroom shall contain a work counter, sink equipped for handwashing, and space for clean and sterile supplies. A Clean Supply Room shall be provided when the Narrative Program defines a system for the storage and distribution of clean and sterile supplies which would not require the use of a Clean Workroom.
9. Anesthesia Storage Facilities. Unless the Narrative Program and the official hospital board action prohibits in writing the use of flammable anesthetics, a separate room shall be provided for storage of flammable gases in accordance with the requirements detailed the National Fire Protection Association Standards 56A (Inhalation Anesthetics) and 56F (Nonflammable Medical Gases).
10. Anesthesia Workroom for cleaning, testing, and storing anesthesia equipment. It shall contain a work counter and sink.
11. Medical Gas Storage. Space for reserve storage of nitrous oxide and oxygen cylinders shall be provided.
12. Equipment Storage Room(s) for equipment and supplies used in the Obstetrics Suite.

13. Staff Clothing Change Areas. Appropriate areas shall be provided for male and female personnel (orderlies, technicians, nurses, and doctors) working within the Obstetrics Suite. The areas shall contain lockers, showers, toilets, lavatories equipped for handwashing and space for donning scrub suits and boots. These areas shall be arranged to provide a one-way traffic pattern so that personnel entering from outside the Obstetrical Suite can change, shower, gown, and move directly into the Obstetrical Suite. Space for removal of scrub suits and boots shall be designed so that personnel using it will avoid physical contact with clean personnel.
14. Stretcher Storage Area. This area shall be out of direct line of traffic.
15. Lounge and Toilet Facilities for Obstetrics Staff. These facilities shall be provided in hospitals having three or more delivery rooms and shall be located to permit use without leaving the Obstetrics Suite. A Nurses' Toilet Room shall be provided near the Recovery Room(s).
16. Janitors' Closet. A closet containing a floor receptor or service sink and storage space for housekeeping supplies and equipment shall be provided exclusively for the Obstetrical Suite.

(20-4.11) 11. Emergency Suite

Facilities for emergency care shall be provided in each hospital.

a. Emergency Patient Care Services.

The extent of the emergency services to be provided in the hospital will depend upon community needs and availability of other organized programs for emergency services within the community.

Hospitals having a Narrative Program calling for a minimum level of emergency services shall provide at least the facilities indicated in Items 1, 4, and 10 below with back-up facilities within the hospital capable of furnishing the necessary support for facilities not provided in the Emergency Suite. Other hospitals shall provide all of the following to the degree called for in the Narrative Program:

1. An entrance at grade level, sheltered from the weather with provision for ambulance and pedestrian access.
2. A reception and control area conveniently located near the entrance, waiting area(s) and treatment room(s).
3. Public waiting space with toilet facilities, public telephone, and drinking fountain.
4. Treatment Area. The Treatment Area shall contain handwashing facilities trimmed with valves which are aseptically operated (i.e., knee or foot controls), general storage cabinets, medication cabinets, work counters, medical suction outlets, x-ray film illuminators, and space for storage of emergency equipment such as defibrillators, cardiac monitors, and resuscitators.
5. A holding area adjacent to the treatment rooms shall be provided as required by the program narrative.
6. A storage area out of the line of traffic for stretchers and wheelchairs.
7. Staff's Work and Charting Areas. This may be combined with reception and control area or located within the treatment area.
8. Clean supply storage may be separate or located within the treatment area.
9. Soiled Workroom or Area containing a clinical sink, work counter, and sink equipped for handwashing, waste receptacle, and linen receptacle.
10. Provide toilet facilities convenient to the treatment area.

b. Outpatient Services.

(See Outpatient Department)

(20-4.12) 12. Outpatient Department

- a. Outpatient Department, if provided, should be located on an easily accessible floor convenient to Radiology, Pharmacy, and Laboratory Departments.
- b. Size will vary in different locations with the availability of other examination and diagnostic facilities, and is not necessarily proportionate to the size of the hospital. The estimated patient load will determine the number, size and scope of individual facilities in the Outpatient Department.
- c. Recommended Facilities Include:

- Waiting Room with Public Toilets.
- Information, Appointment and Records.
- Medical Social Services.
- Examination Rooms.
- Dressing Booths.
- Utility Room(s).
- Storage Room.
- Janitors' Closet.

a. Dietary Facilities

1. General.

Construction, equipment, and installation shall comply with the standards specified in: The State of Illinois Rules and Regulations for Food Service Sanitation and the Food Service Sanitation Manual, P.H.S. No. 934. Food service facilities shall be designed and equipped to meet the requirements of the Narrative Program. These may consist of an on-site conventional food preparing system, a convenience food service system, or an appropriate combination of the two.

2. Functional Elements.

The following facilities shall be provided as required to implement the type of food service selected:

- a. Control Station. For receiving food supplies.
- b. Storage Space. Adequate to provide normal and emergency supply needs including food requiring cold storage and day storage.
- c. Food Preparation Facilities. Conventional food preparation systems require space and equipment for preparing, cooking, and baking. Convenience food service systems such as frozen prepared meals, bulk packaged entrees, and individual packaged portions, or systems using contractual commissary service require space and equipment for thawing, portioning, heating, cooking, and/or baking.
- d. Handwashing Facility(ies). Located in the food preparation area.
- e. Patients' Meal Service Facilities. Examples are those required for tray assembly and distribution.
- f. Dining Space. For ambulatory patients, staff and visitors.
- g. Warewashing Space. Located in a room or an alcove separate from food preparation and serving areas. Commercial-type dishwashing equipment shall be provided. Space shall also be provided for receiving, scraping, sorting, and stacking soiled tableware and for transferring clean tableware to the using areas. A handwashing lavatory shall be conveniently available.
- h. Potwashing Facilities.
- i. Storage Areas. For cans, carts, and mobile tray conveyors.
- j. Waste Storage Facilities. Located in a separate room easily accessible to the outside for direct pickup or disposal.
- k. Office(s) or Desk Spaces. For dietitian(s) and/or the dietary service manager.

- l. Toilets accessible to the dietary staff. Hand-washing facilities shall be immediately available.
- m. Janitors' Closet. Located within the dietary department. It shall contain a floor receptor or service sink and storage space for housekeeping equipment and supplies.
- n. Self-dispensing icemaking facilities.
- o. Provide adequate can, cart and mobile tray washing facilities as required.

b. Central Stores.

The following shall be provided:

1. Off street unloading facilities.
2. A Receiving Area.
3. General Storage Rooms.

These facilities shall have storage spaces adequate to meet the needs of the hospital. They shall generally be concentrated in one area, but, in a multiple building complex, they may be in separate concentrated areas in more than one individual building.

4. Office Space.

c. Linen Services.

1. On-site Processing.

If linen is to be processed at the hospital site, the following shall be provided:

- a. Soiled linen receiving, holding, and sorting room with handwashing facilities.
- b. Laundry processing room with commercial-type equipment which can process seven days' needs within a regularly scheduled work week. Handwashing facilities shall be provided.
- c. Separate clean linen storage and issuing room or area.
- d. Clean linen inspection and mending room or area.
- e. Storage for laundry supplies.
- f. Janitors' closet containing a floor receptor or service sink and storage space for housekeeping equipment and supplies.
- g. Cart Storage.
- h. Office Space.

2. Off-site Processing.

If linen is processed off the hospital site, the following shall be provided:

- a. A soiled linen holding room with facilities for handwashing.
- b. A clean linen, receiving, inspection, and storage rooms.
- c. Cart Storage.
- d. Office Space.

d. Facilities for Cleaning and Sanitizing Carts.

Facilities shall be provided to clean and sanitize carts serving the central medical and surgical supply department, dietary facilities, and linen services. These may be centralized or departmentalized.

e. Employees Facilities.

In addition to the employees' facilities such as locker rooms, lounges, toilets, or shower facilities called for in certain departments, a sufficient number of such facilities as required to accommodate the needs of all personnel and volunteers shall be provided.

f. Janitors' Closets.

In addition to the janitors' closets called for in certain departments sufficient janitors' closets shall be provided throughout the facility as required to maintain a clean and sanitary environment. Each shall contain a floor receptor or service sink and storage space for housekeeping equipment and supplies. Space(s) for large housekeeping equipment and for back-up supplies may be located in other areas.

g. Engineering Service and Equipment Areas.

The following shall be provided:

1. Room(s) or Separate Building(s) for Boilers, Mechanical Equipment, and Electrical Equipment.
2. Engineer's Space.
3. Maintenance Shop(s).
4. Storage Room for Building Maintenance Supplies.
5. Yard Equipment Storage. A separate room or building for yard maintenance equipment and supplies may be provided.

h. Waste Processing Services.

1. Storage and Disposal.

Space and facilities shall be provided for the sanitary storage and disposal of waste by incineration, mechanical destruction, compaction, containerization, removal, or by a combination of these techniques. Proper handling and disposal of radioactive waste substances shall be provided.

2. Incineration.

A gas, electric or oil-fired incinerator shall be provided for the complete destruction of pathological and infectious waste. Infectious waste shall include, but shall not be limited to, dressings and material from open wounds, laboratory specimens, and all waste material from isolation rooms.

- a. The incinerator shall be in a separate room or placed outdoors.
- b. Design and construction of incinerators and trash chutes shall be in accordance with NFPA Standard 82.
- c. Incinerators shall be designed and equipped to conform to requirements prescribed by air pollution regulations in the area.

i. Storage.

In addition to the storage areas called for in certain departments of the hospital suitable additional storage shall be provided.

Section E - Details

All Details and Finishes Shall Comply with the Following:

20-5.1

Details

- a. Compartmentation, exits, automatic extinguishing systems and other details relating to fire prevention and fire protection shall comply with requirements listed in the appropriate sections of the NFPA Standard 101, Life Safety Code.
- b. Items such as drinking fountains, telephone booths, vending machines, and portable equipment shall be located so as not to restrict corridor traffic or reduce the corridor width below the required minimum.
- c. Doors to patient rooms shall not be lockable from inside the room.
- d. The minimum width of all doors to rooms needing access for beds or stretchers shall be 3'-10". Doors to rooms needing access for wheelchairs shall have a minimum width of 2'-10".
- e. Doors on all openings between corridors and rooms or spaces subject to occupancy, except elevator doors, shall be swing type. Openings to showers, baths, patient toilets, and other small wet-type areas not subject to fire hazard are exempt from this requirement. Sliding doors with a break and swing feature are acceptable.
- f. Doors, except those to spaces such as small closets which are not subject to occupancy, shall not swing into corridors in a manner that might obstruct traffic flow or reduce the required corridor width. (Large walk-in type closets are considered as occupiable spaces.)
- g. Windows shall be designed so that persons cannot accidentally fall out of them when they are open, or shall be provided with guards.
- h. Doors, sidelights, borrowed lights, and windows in which the glazing extends down to within 18 inches of the floor (thereby creating possibility of accidental breakage by pedestrian traffic) shall be glazed with safety glass, wire glass, or plastic glazing material that will resist breaking and will not create dangerous cutting edges when broken. Similar materials shall be used in wall openings or recreation rooms and exercise rooms. Safety glass or plastic glazing materials shall be used for shower doors and bath enclosures. Wire glass shall be used where required for fire safety.

Safety glass or plastic glazing materials as noted above shall be used in windows and doors in patient areas of psychiatric facilities, if required by the program. See the State of Illinois "Safety Glazing Materials Act" for other requirements.

- j. Where labeled fire doors are required, these shall be certified by an independent testing laboratory as meeting the construction requirements equal to those for fire doors in NFPA Standard 80 (Fire Doors and Windows). Reference to a labeled door includes labeled frame and hardware.
- k. Elevator shaft openings shall be class B 1 1/2 hour labeled fire doors.
- l. Linen and refuse chutes shall meet or exceed the following requirements:
 - (1) Service openings to chutes shall not be located in corridors or passageways but shall be located in a room of construction having a fire-resistance of not less than one hour. Doors to such rooms shall be not less than class C 3/4 hour labeled doors.
 - (2) Service openings to chutes shall have approved self-closing class B 1 1/2 hour labeled fire doors.
 - (3) Minimum cross-sectional dimension of gravity chutes shall be not less than 2'-0".
 - (4) Chutes shall discharge directly into collection rooms separated from incinerator, laundry, or other services. Separate collection rooms shall be provided for trash and for linen. The enclosure construction for such rooms shall have a fire-resistance of not less than two hours, and the doors thereto shall be not less than class B 1 1/2 hour labeled fire doors. External discharge containers need not be enclosed.
 - (5) Gravity chutes shall extend through the roof with provisions for continuous ventilation as well as for fire and smoke ventilation. Openings for fire and smoke ventilation shall have an effective area of not less than that of the chute cross-section and shall be not less than 4'-0" above the roof and not less than 6'-0" clear of other vertical surfaces. Fire and smoke ventilating openings may be covered with single strength sheet glass.
 - (6) See NFPA Standard 82 (Incinerators and Rubbish Handling) for other requirements.

- m. Dumbwaiters, conveyors, and material handling systems shall not open directly into a corridor or exitway but shall open into a room enclosed by construction having a fire-resistance of not less than one hour and provided with class C 3/4 hour labeled fire doors. Service entrance doors to vertical shafts containing dumbwaiters, conveyors, and material handling systems shall be not less than class B 1 1/2 hour labeled fire doors. Where horizontal conveyors and material handling systems penetrate fire-rated walls or smoke partitions, such openings must be provided with class B 1 1/2 hour labeled fire doors for two hour walls and class C 3/4 hour labeled fire doors for one hour walls or partitions.
- n. Thresholds and expansion joint covers shall be made flush with the floor surface to facilitate use of wheelchairs and carts.
- o. Grab bars shall be provided at all patients' toilets, showers, tubs, and sitz baths. The bars shall have 1 1/2 inch clearance to walls and shall have sufficient strength and anchorage to sustain a concentrated load of 250 pounds.
- p. Recessed soap dishes shall be provided at showers and bathtubs.
- q. Location and arrangement of handwashing facilities shall permit their proper use and operation. Particular care should be given to the clearances required for blade-type operating handles.
- r. Mirrors shall not be installed at handwashing fixtures in food preparation areas or in sensitive areas such as Nurseries, Clean and Sterile Supplies, and scrub sinks.
- s. Paper towel dispensers and waste receptacles or electric hand dryers shall be provided at all handwashing facilities except scrub sinks.
- t. Lavatories and handwashing facilities shall be securely anchored to withstand an applied vertical load of not less than 250 pounds on the front of the fixture.
- u. Radiation protection requirements of X-ray and gamma ray installation shall conform with NCRP Reports Nos. 33 and 34. Provision shall be made for testing the completed installation and all defects must be corrected before use.
- v. Ceiling heights shall be as follows:
 - (1) Boiler rooms shall have ceiling clearances not less than 2'-6" above the main boiler header and connecting piping.
 - (2) Radiographic, Operating and Delivery Rooms, and other rooms containing ceiling-mounted equipment or ceiling-mounted surgical light fixtures shall have height required to accommodate the equipment or fixtures.

(3) All other rooms shall have not less than 8'0" ceilings except that corridors, storage rooms, toilet rooms, and other minor rooms shall be not less than 7'8". Suspended tracks, rails, and pipes located in the path of normal traffic shall be not less than 6'8" above the floor.

- w. Recreation Rooms, Exercise Rooms, and similar spaces where impact noises may be generated shall not be located directly over patient bed area, delivery or operating suites, unless special provisions are made to minimize such noise.
- x. Rooms containing heat-producing equipment (such as Boiler or Heater Rooms and Laundries) shall be insulated and ventilated to prevent any floor surface above from exceeding a temperature of 10°F. (6°C.) above the ambient room temperature.
- y. Noise reduction criteria shown in the following table shall apply to partition, floor, and ceiling construction in patient areas. (Not applicable to existing.)

SOUND TRANSMISSION LIMITATIONS IN GENERAL HOSPITALS

	Airborne Sound Transmissions Class (STC) <u>a/</u>		Impact Insulation Class (IIC) <u>b/</u>
	Partitions	Floors	Floors
Patients' Room to Patients' Room	45	45	45
Public space to Patients' Room <u>c/</u>	50	50	50 <u>d/</u>
Service areas to Patients' Room <u>e/</u>	55	55	55 <u>d/</u>

- a/ Sound transmission class (STC) shall be determined by tests in accordance with methods set forth in ASTM Standard E 90 and ASTM Standard E 413.
- b/ Impact insulation class (IIC) shall be determined in accordance with criteria set forth in HUD FT/TS-24, "A Guide to Airborne, Impact and Structure Borne Noise - Control in Multi-Family Dwellings."
- c/ Public space includes Lobbies, Dining Rooms, Recreation Rooms, Treatment Rooms, and similar spaces.
- d/ Impact noise limitation applicable only when Corridor, Public Space, Service Area, or Play or Recreation Area is over patients' room.
- e/ Service areas include Kitchens, Elevator, Elevator Machine Rooms, Laundries, Garages, Maintenance Rooms, Boiler and Mechanical Equipment Rooms, and similar spaces of high noise. Mechanical equipment located on the same floor or above Patients' Rooms, Offices, Nurses Stations, and similar occupied spaces shall be effectively isolated from the floor.

aa.

Elevators

All hospitals having patients' facilities (such as Bedrooms, Dining Rooms, or Recreation Areas) or critical services (such as Operating, Delivery, Diagnostic, or Therapy) located on other than the main entrance floor shall have electric or electrohydraulic elevators.

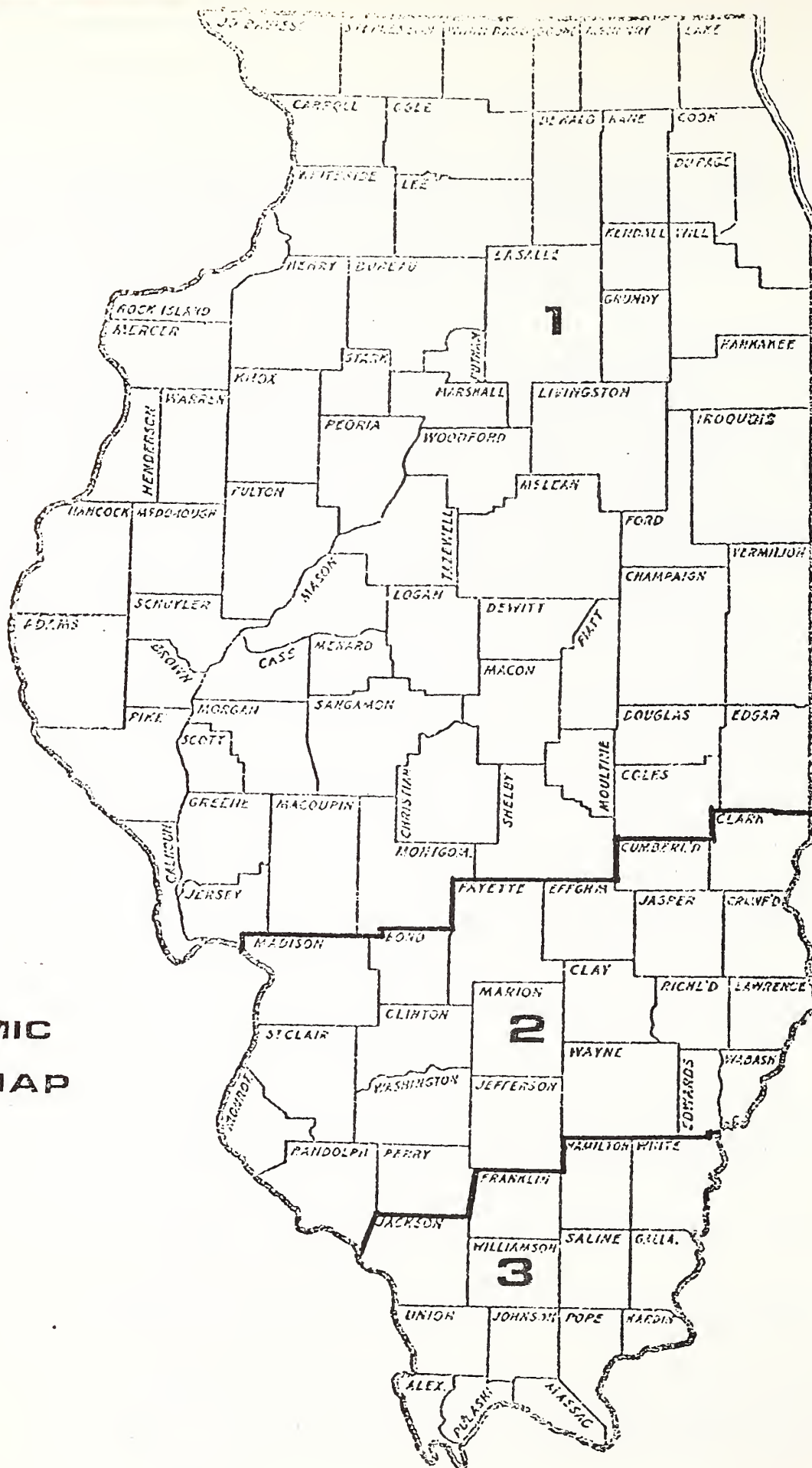
- (1) Number of Elevators.
 - (a) At least one hospital-type elevator shall be installed where 1 to 59 patient beds are located on any floor other than the main entrance floor.
 - (b) At least two hospital-type elevators shall be installed where 60 to 200 patient beds are located on floors other than the main entrance floor, or where the major inpatient services are located on a floor other than those containing patient beds. (Elevator service may be reduced for those floors which provide only partial inpatient services.)
 - (c) At least three hospital-type elevators shall be installed where 201 to 350 patient beds are located on floors other than the main entrance floor, or where the major inpatient services are located on a floor other than those containing patient beds. (Elevator service may be reduced for those floors which provide only partial inpatient services.)
 - (d) For hospitals with more than 350 beds, the number of elevators shall be determined from a study of the hospital plan and the estimated vertical transportation requirements.
- (2) Cars and Platforms. Cars of hospital-type elevators shall have dimensions that will accommodate a patient bed and attendants and shall be at least 5'-0" by 7'-6". The car door shall have a clear opening of not less than 3'-8".
- (3) Leveling. Elevators shall be equipped with an automatic leveling device of the two-way automatic maintaining type with an accuracy of $\pm 1/2$ inch.
- (4) Operation. Elevators, except freight elevators, shall be equipped with a two-way special service key operated switch to permit cars to bypass all landing button calls and be dispatched directly to any floor.
- (5) Elevator controls, alarm buttons, and telephones shall be accessible to physically handicapped.
- (6) Elevator call buttons, controls, and door safety stops shall be of a type that will not be activated by heat or smoke.
- (7) Inspections and tests shall be made and written certification be furnished that the installation meets the requirements set forth in this section and all applicable safety regulations and codes.

bb.

Provisions for Natural Disasters

- (1) General Requirements. An emergency radio communication system is desirable in each facility. If installed, this system shall be self-sufficient in time of emergency and shall also be linked with the available community system and state emergency medical network system, including connections with police, fire, and civil defense system.
- (2) Earthquakes. In regions where local experience shows that earthquakes have caused loss of life or extensive property damage, buildings and structures shall be designed to withstand the force assumptions specified in the ICBO Uniform Building Code. Seismic zones are identified on the map on page 178.
- (3) Hurricanes, Tornadoes, and Floods. Special provisions shall be made in the design of buildings in regions where local experience shows loss of life or damage to buildings resulting from hurricanes, tornadoes, or floods.

SEISMIC ONE MAP



20-6 1. Finishes

- a. Cubicle and window curtains and draperies shall be noncombustible or rendered flame retardant and shall pass both the large and small scale tests of NFPA Standard 701, "Fire Tests for Flame-Resistant Textiles and Films."
- b. Flame spread and smoke developed ratings of finishes shall be in accordance with NFPA 101. (Life Safety Code)
- c. Floors in areas and rooms in which flammable anesthetic agents are stored or administered to patients shall comply with NFPA Standard 56A, "Inhalation Anesthetics." Conductive flooring may be omitted from emergency treatment, operating, and delivery rooms provided that a written resolution is signed by the hospital board stating that no flammable anesthetic agents will be used in these areas and provided that appropriate notices are permanently and conspicuously affixed to the wall in each such area and room.
- d. Floor materials shall be easily cleanable and have wear resistance appropriate for the location involved. Floors in areas used for food preparation or food assembly shall be water-resistant and grease-proof. Joints in tile and similar material in such areas shall be resistant to food acids. Floors in toilets, baths, janitor's closets and similar areas shall be water resistant. In all areas frequently subject to wet cleaning methods, floor materials shall not be physically affected by germicidal and cleaning solutions.
- e. Wall bases in kitchens, operating and delivery rooms, soiled workrooms, and other areas which are frequently subject to wet cleaning methods shall be made integral and coved with the floor, tightly sealed to the wall, and constructed without surface voids that can harbor vermin.
- f. All wall finishes shall be washable and, in the immediate area of plumbing fixtures, shall be smooth and moisture resistant. Walls in surgery, delivery, kitchens and in other spaces, subject to frequent cleaning shall be of suitable materials.
- g. Floor and wall penetrations by pipes, ducts, and conduits shall be tightly sealed to minimize entry of vermin, smoke and fire. Joints of structural elements shall be similarly sealed.
- h. Ceilings shall be cleanable and those in sensitive areas such as surgical, delivery, and nursery rooms shall be readily washable and without crevices that can retain dirt particles. These sensitive areas along with the dietary and food preparation areas shall have a finished ceiling covering all overhead ductwork and piping. Finished ceilings may be omitted in mechanical and equipment spaces, shops, general storage areas, and similar spaces, unless required for fire-resistive purposes.

- i. The following areas shall have acoustical ceilings:

Corridors in Patient Areas
Nurses' Stations
Labor Rooms
Day Rooms
Recreation Rooms
Dining Areas
Waiting Areas

(20.7) Section G - Structural

- (20-7.1) 1. Codes: In addition to compliance with the Standards set forth in this subpart, all applicable local or State building codes and regulations must be observed.

(20-7.2) 2. Design data - General

- a. The buildings and all parts thereof shall be of sufficient strength to support all dead, live, and lateral loads without exceeding the working stresses permitted for the materials of their construction in generally accepted good engineering practice.
- b. Special. Special provision shall be made for machines or apparatus loads which would cause a greater load than the specified minimum live load.

Consideration shall be given to structural members and connections of structures which may be subject to earthquakes, hurricanes, or tornadoes. (See 20-5 bb). Floor areas where partition locations are subject to change shall be designed to support for the partition, a uniformly distributed load of 25 p.s.f.

- (20-7.3) 3. Construction. Construction shall be in accordance with the requirements of Section 10-132 of NFPA Standard 101, Life Safety Code and the minimum requirements contained herein.

- a. Foundations shall rest on natural solid ground and shall be carried to a depth of not less than one foot below the estimated frost line or shall rest on leveled rock or load-bearing piles or caissons when solid ground is not encountered. Footings, piers, and foundation walls shall be adequately protected against deterioration from the action of ground water. Test borings shall be taken to establish proper soil-bearing values for the soil at the building site.

- b. Assumed live loads shall be in accordance with the Uniform Building Code.
- c. The fire resistance rating of the structural members shall be as established by NFPA 220 (Standard Types of Building Construction) for three hour fire resistive construction.
- d. Interior finish flame spread ratings shall be in accordance with the National Fire Protection Association, Life Safety Code 101, Standards for Flame Spread and Smoke Emission Ratings.

(20-8) Section H--Mechanical

(20-8.1)1. General

- A. Mechanical systems shall be tested, balanced, and operated to demonstrate that the installation and performance of these systems conform to the requirements of the plans and specifications.
- B. Upon completion of the contract, the owner shall obtain a complete set of manufacturers installation, operating, maintenance and preventive maintenance instructions, and parts list with numbers and description for each piece of equipment. The owner shall also obtain instruction in the operational use of the systems and equipment as required.

(20-8.2)2.

Thermal and Acoustical Insulation

- A. Insulation shall be provided for the following within the building:
 - 1. Boilers, smoke breeching, and stacks.
 - 2. Steam supply and condensate return piping.
 - 3. Hot water piping above 180°F (82°C) and all hot water heaters, generators, and converters.
 - 4. Hot water piping above 125°F (52°C) which is exposed to contact by patients.
 - 5. Chilled water, refrigerant, other process piping and equipment operating with fluid temperatures below ambient dew point.
 - 6. Water supply and drainage piping on which condensation may occur.
 - 7. Air ducts and casings with outside surface temperature below ambient dew point.
 - 8. Other piping ducts, and equipment as necessary to maintain the efficiency of the system.
- B. Insulation may be omitted from hot water and steam condensate piping not subject to contact by patients when such insulation is unnecessary for preventing excessive system heat loss or excessive heat gain.
- C. Insulation on cold surfaces shall include an exterior vapor barrier.
- D. Insulation, including finishes and adhesives on exterior surfaces of ducts, pipes, and equipment, shall have a flame spread rating of 25 or less and a smoke developed rating of 150 or less as determined by an independent testing laboratory in accordance with ASTM Standard E 84. Exception: Duct, pipe and equipment coverings shall not be required to meet these requirements where they are located entirely outside of a building, or do not penetrate a wall or roof or do not create an exposure hazard.
- E. Duct linings shall not be used in systems supplying operating rooms, delivery rooms, recovery rooms, nurseries, and intensive care rooms unless terminal filters of at least 90 percent efficiency are installed down stream of linings.
- F. Access to filters for changing shall be provided outside of clean areas unless approved otherwise by the Department.

(20-8.3)3.

Steam and Hot Water Systems

- A. Boilers. Boilers shall have the capacity to supply the normal requirements of all systems and equipment. The number and arrangement of boilers shall be such that when one boiler breaks down or is temporarily taken out of service, the capacity of the remaining boiler(s) shall be sufficient to: provide hot water service for clinical, dietary and patient use; steam for sterilization and dietary purposes; heating for surgery, delivery, labor, recovery, intensive care, nursery, and general patient rooms.
- B. Boiler Accessories. Boiler feed pumps, heating circulating pumps, condensate return pumps and fuel oil pumps shall be connected and installed to provide normal and standby service.
- C. Valves. Supply and return mains and risers of cooling, heating and process steam systems shall be valved to isolate the various sections of each system. Each piece of equipment shall be valved at supply and return ends.

(20-8.4)4.

Air Conditioning, Heating and Ventilating Systems

- A. Temperatures and Humidities. The systems shall be designed to provide the following temperatures and humidities in the following areas:

<u>Area Designation</u>	<u>Temperature</u>		<u>Relative Humidity %</u>	
	<u>°F</u>	<u>°C</u>	<u>Min.</u>	<u>Max.</u>
Operating Room	70-76*	21-24*	50	60
Delivery Room	70-76*	21-24*	50	60
Recovery Room	75	24	50	60
Intensive Care Units	75-80*	24-27*	30	60
Nursery Units	75	24	30	60
Special Care Nursery Units	75-80*	24-27*	30	60
Other patient areas	75	24		

*Variable range required.

- B. Ventilation Systems.
 - 1. Air handling systems shall conform to "Installation of Air Conditioning and Ventilating Systems", NFPA90A-1975.
 - 2. Outdoor intakes shall be located as far as practical but not less than 15 feet from exhaust outlets of ventilation systems, combustion equipment stacks, medical-surgical vacuum systems, plumbing vent stacks or from areas which may collect vehicular exhaust and other noxious fumes.
 - 3. The ventilation systems shall be designed and balanced to provide the ventilation and pressure relationships as shown in table 1, page 187.
 - 4. All ventilation air supplied to operating rooms, delivery rooms and nurseries shall be delivered at or near the ceiling of the area served, and all exhaust air from the area shall be removed near the floor level. At least two exhaust outlets shall be used in all operating and delivery rooms.

5. Isolation rooms and intensive care rooms may be ventilated through heat exchange coils provided only the primary air supplied from a central system passes through the coils.
6. All central ventilation or air conditioning systems shall be equipped with filters having efficiencies no less than those specified in the following:

FILTER EFFICIENCIES FOR CENTRAL VENTILATION AND AIR CONDITIONING SYSTEMS IN
GENERAL HOSPITALS

Area Designation	Minimum Number of Filter Beds	Filter Efficiencies (percent)	
		Filter Bed No. 1	Filter Bed No. 2
Sensitive Areas*	2	25	90
Patient Care, Treatment, Diagnostic, and Related Areas	2	25	90**
Food Preparation Areas and Laundries	1	80	—
Administrative, Bulk Storage and Soiled Holding Areas	1	25	—

*Includes operating rooms, delivery rooms, nurseries, recovery rooms, and intensive care units.

**May be reduced to 80 percent for systems using all-outdoor air.

7. Where two filter beds are required, filter bed No. 1 shall be located upstream of the conditioning equipment and filter bed No. 2 shall be located downstream of the supply fan and conditioning equipment (including humidifiers).
8. Where only one filter bed is required, it shall be located upstream of the air conditioning equipment. If a prefilter is installed, it shall be located upstream of the conditioning equipment and the main filter may be located further downstream.
9. All filter efficiencies shall be average atmospheric dust spot efficiencies tested in accordance with ASHRAE Standard 52-68.

10. Filter frames shall be durable and shall provide an airtight fit with the enclosing ductwork. All joints between filter segments and enclosing duct work shall be gasketed or sealed to provide a positive seal against air leakage.
11. A monometer shall be installed across each filter bed serving central air systems.
12. Ducts which penetrate construction intended for x-ray or other ray protection shall be protected to preserve the effectiveness of the protection.
13. Fire and smoke dampers shall be constructed, located and installed in accordance with the requirements of NFPA Standard 90A (air conditioning systems). Exception: all systems, regardless of size, which serve more than one smoke or fire zone, shall be equipped with smoke detectors to shut down fans automatically as specified in paragraph 4-3.1 of that Standard.
14. If the air changes required in Table 1 do not provide sufficient air for use by hoods and safety cabinets, the required make up air shall be provided to maintain required pressure balance.
15. Laboratory hoods shall meet the following general requirements:
 - a. the average face velocity shall be 75 feet per minute or more.
 - b. the exhaust system shall be separate from the building exhaust system.
 - c. the exhaust fan shall be located at the discharge end of the duct system.
 - d. the exhaust duct system shall be of noncombustible corrosion-resistant material consistent with the usage of the hood.
16. Laboratory hoods shall meet the following special requirements:
 - a. Each hood for the processing of infectious or radioactive materials shall have a minimum face velocity of 100 feet per minute, shall be connected to an independent exhaust system, shall be provided with filters with 99.97 percent efficiency (based on the DOP, dioctylphthalate, test method) in the exhaust system, and shall be designed and equipped to permit the safe removal, disposal and replacement of contaminated filters.
 - b. Duct systems in which radioactive and strong oxidizing agents are present shall be constructed of corrosion resistant material consistent with usage for a minimum distance 10 feet from the hood and shall be equipped with washdown facilities.
17. The hood and duct system for cooking equipment used in processes producing smoke or grease-laden vapors shall be in conformance with NFPA 96-1973 (Vapor Removal Cooking Equipment). That portion of the fire extinguishment system required for protection of the duct system may be omitted when all cooking equipment is served by listed grease extractors.

18. Other exhaust hoods in food preparation centers shall have an exhaust rate of not less than 50 CFM per square foot of face area. The face area is the open area from exposed perimeter of hood to the open perimeter of the cooking surface.
19. Cleanout openings shall be provided at each change in direction and in horizontal sections no more than 20 feet apart in the duct system serving kitchen and food preparation areas.
20. The ventilation system for anesthesia storage rooms shall conform to the requirements of NFPA 56A (Inhalation Anesthetics), including the gravity option system.
21. Boiler rooms shall be provided with sufficient outdoor air to maintain combustion rates of equipment and limit temperatures in working stations to 97°F. Effective temperature as defined by ASHRAE Handbook of Fundamentals.
22. Rooms containing heat-producing equipment, such as boiler rooms, heater rooms, food preparation centers, laundries, sterilizer rooms, shall be insulated and ventilated to prevent any floor surface above from exceeding a temperature of 100°F.

Table 1. GENERAL PRESSURE RELATIONSHIPS AND VENTILATION OF CERTAIN HOSPITAL AREAS

Area Designation	Pressure Relationship to Adjacent Areas	Minimum		All Air Exhausted Directly to Outdoors	Recirculated within Room Units
		Air Changes of Outdoor Air per Hour Supplied to Room	Total Air Changes per Hour Supplied To Room		
Operating Room	+	5	25	Optional	No ⁴
Emergency Operating Room	+	5	25	Optional	No ⁴
Emergency Examination and Treatment Room	o	2	6	Optional	Optional
Delivery Room	+	5	2	Optional	No ⁴
Nursery Unit	+	5	12	Optional	No ⁴
Recovery Room	+	2	6	Optional	No ⁴
Intensive Care	+	2	6	Optional	No ^{4, 5}
Patient Room	o	2	2	Optional	Optional
Patient Room Corridor	o	2	4	Optional	Optional
Isolation Room	o	2	6	Yes	No ⁵
Isolation Room-Alcove or Anteroom	o	2	10	Yes	No ⁵
Examination Room	o	2	6	Optional	Optional
Medication Room	+	2	4	Optional	Optional
Pharmacy	+	2	4	Optional	Optional
Treatment Room	o	2	6	Optional	No ⁴
X-ray, Fluoroscopy Room	-	2	6	Yes	No
X-ray, Treatment Room	o	2	6	Optional	Optional
Physical Therapy and Hydrotherapy	-	2	6	Optional	Optional
Soiled Workroom or Soiled Holding	-	2	10	Yes	No
Clean Workroom or Clean Holding	+	2	4	Optional	Optional
Autopsy and Autopsy Workrooms	-	2	12	Yes	No
Non-refrigerated Body Holding Room	-	Optional	10	Yes	No
Darkroom	-	2	12	Yes	No
Toilet Room	-	Optional	10	Yes	No
Bedpan Room	-	Optional	10	Yes	No
Bathroom	-	Optional	10	Yes	No
Janitors' Closet	-	Optional	10	Yes	No

+ = Positive - = Negative o = Equal

Table 1. Continued

Area Designation	Pressure Relationship to Adjacent Areas	Minimum		All Air Exhausted Directly to Outdoors	Recirculated within Room Units
		Air Changes of Outdoor Air per Hour Supplied to Room	Total Air Changes per Hour Supplied To Room		
Sterilizer Equipment Room	-	Optional	10	Yes	No
Linen and Trash Chute Rooms	-	Optional	10	Yes	No
Laboratory, General ¹	-	2	6	Optional	Optional
Laboratory, Media Transfer ²	+	2	4	Optional	No ⁴
Food Preparation Centers	o	2	10	Yes	No
Warewashing	-	Optional	10	Yes	No
Dietary Day Storage	o	Optional	2	Optional	No
Laundry, General	o	2	10	Yes	No
Soiled Linen Sorting and Storage	-	Optional	10	Yes	No
Clean Linen Storage	+	2	2	Optional	Optional
Anesthesia Storage ³	o	Optional	8	Yes	No
Central Medical & Surgical Supply					
Soiled or Decontamination Room	-	2	6	Yes	No
Clean Workroom	+	2	4	Optional	Optional
Unsterile Supply Storage	o	2	2	Optional	Optional

+ = Positive - = Negative o = Equal

¹See 20-8.4.B.15, 20-8.4.B.16, and 20-8.4.B.17 for additional requirements.

²See 20-8.4.B.16 for additional requirements.

³See 20-8.4.B.20 for additional requirements.

⁴Recirculating room units meeting the filtering requirement for sensitive areas in 20-8.4.B.6 may be used.

⁵See 20-8.4.B.6

(20-9) Section I - Plumbing and Other Piping Systems

(20-9.1) 1. General

- A. All plumbing systems shall be designed and installed in accordance with the requirements of the Illinois State Plumbing Code except that the number of waterclosets, urinals, lavatories, bathtubs, showers, drinking fountains and other fixtures shall be as required by these Requirements and the hospital programs.

2. Plumbing Fixtures

- A. Plumbing fixtures shall be of nonabsorptive acid-resistant materials.
- B. The water supply spout for lavatories and sinks required for filling pitchers, for medical and nursing staff and food handlers handwashing, shall be mounted so that its discharge point is a minimum perpendicular distance of 5 inches above the rim of the fixture.
- C. Handwashing lavatories used by medical and nursing staff shall be trimmed with valves which can be operated without the use of hands where specifically required in previous sections.
 - (1) When blade handles are used for this purpose the blade handles shall not exceed $4\frac{1}{2}$ inches in length, except the handles on clinical sinks shall not be less than 6 inches in length.
 - (2) The handwashing and scrub sinks, in Surgery and Emergency Treatment, Nurseries, and Delivery shall be trimmed with valves which are aseptically operated (i.e., knee or foot controls) without the use of hands. Wrist blades are not acceptable.
- D. Clinical rim flush sinks shall have an integral trap in which the upper portion of a visible trap seal provides a water surface.
- E. Shower bases and tubs shall be provided with nonslip surfaces for standing patients.

3. Water Supply Systems

- A. Systems shall be designed to supply water at sufficient pressure to operate all fixtures and equipment during maximum demand periods.
- B. Each water service main, branch main, riser and branch to a group of fixtures shall be valved. Stop valves shall be provided at each fixture.

- C. Flush valves installed on plumbing fixtures shall be of a quiet operating type, equipped with silencers.
- D. Bedpan flushing devices shall be provided on each patient toilet unless a clinical service sink is centrally located in each nursing unit. This requirement does not apply to psychiatric units.
- E. Water distribution systems shall be arranged to provide hot water at each hot water outlet at all times. Hot water at shower, bathing, and handwashing facilities shall not exceed 110°F (43°C). If the program requires, in psychiatric units, plumbing fixtures which require hot water and are accessible to patients shall be supplied with hot water not to exceed 100°F (38°C).

4. Hot Water Heaters and Tanks.

- A. The hot water heating equipment shall have sufficient capacity to supply water at the temperatures and quantities in the following areas:

	Clinical	Dietary	Laundry
gallons/hour/bed	6½	4	4½
liters/second/bed	.007	.004	.005
temperature °F	100	180	180
temperature °C	43	82	82

Water temperatures to be taken at hot water point of use or inlet to processing equipment.

- B. Storage tanks shall be fabricated of corrosion-resistant metal or lined with non-corrosive material.

5. Drainage Systems

- A. Drain lines from sinks in which acid wastes may be poured shall be fabricated from acid-resistant material.
- B. Insofar as possible, drain piping shall not be installed over operating and delivery rooms, nurseries, food preparation serving and storage areas and similar critical areas. Special precautions shall be taken to protect these areas from possible leakage or condensation from such overhead piping systems.
- C. Floor drains shall not be installed in operating rooms. Flushing rim type drains may be installed in Cystoscopic Operating Rooms.

- D. Building sewers shall discharge into a public sewerage system.
- E. Where public sewerage system is not available, plans for any private sewage disposal system shall be submitted to the Environmental Protection Agency of Illinois for review for approval before hospital construction is started.
6. Nonflammable medical gas systems shall be installed in accordance with NFPA 56A (Inhalation Anesthetics) and 56F (Nonflammable Medical Gases).
7. Clinical vacuum (suction) systems shall be installed in accordance with Compressed Gas Association Pamphlet. P-2.1 (Standard for Medical-Surgical Vacuum Systems in Hospitals)
8. Medical compressed air systems shall be installed in accordance with Compressed Gas Association Pamphlet.
9. Oxygen and vacuum shall be piped to the following locations with the required station outlets:

Location	Oxygen	Vacuum	Compressed Air
Patient Room for Adult Medical/ Surgical Care	A	A	
Patient Room for Postpartum Care and Pediatrics	A	F	
Examination and Treatment Rooms for Nursing Unit	D	D	
Patient Room for Intensive Care	C	C	B
Normal Newborn Nursery	A	B	A
Special Care and Observation Nursery	B	B	A
General Operating Room	E	E	E
Cystoscopy and Special Procedure Room	D	D	D
Recovery Room for Surgical and Obstetrical Patients	B	B	A
Delivery Room	E	E	
Labor Room	A	A	
Treatment Room for Emergency Care	D	D	
Autopsy Room	-	D	
Anesthesia Workroom	-	D	

A = One outlet accessible to each bed

One outlet may serve 2 beds

B = One outlet for each bed

C = Two outlets for each bed

D = One outlet

E = Two outlets

F = One outlet provided if required by the narrative

10. Service outlets for central housekeeping vacuum systems, if used, shall not be located within operating rooms.
11. Fire Extinguishing Systems.
 - A. All fire extinguishing systems shall be designed, installed and maintained in accordance with NFPA-101 (Life Safety Code), NFPA-13 (Sprinkler Systems) and NFPA-13A, (Sprinkler Systems Maintenance).
 - B. All buildings more than one story in height shall be provided with a Class III, Type 1 inside standpipe system. Such standpipe systems shall conform to the requirements of NFPA-14, (Standpipe and Hose Systems).

(20-10) SECTION J ELECTRICAL REQUIREMENTS

(20-10.1) GENERAL

- A. All material including equipment, conductors, controls, and signaling devices shall be installed to provide a complete electrical system with the necessary characteristics and capacity to supply the electrical facilities shown in the specifications or indicated on the plans. All materials shall be listed as complying with available standards of Underwriters' Laboratories, Inc., or other similarly established standards.
- B. All electrical installations and systems shall be tested to show that the equipment is installed and operates as planned or specified. A written record of performance tests on special electrical systems and equipment shall be supplied. Such tests shall show compliance with the governing codes and shall include conductive floors, isolated power systems, grounding continuity, and alarm systems.

(20-10.2) Switchboards and Power Panels.

- A. Circuit breakers or fusible switches that provide disconnecting means and overcurrent protection for conductors connected to switchboards and panelboards shall be enclosed or guarded to provide a dead-front type of assembly. The main switchboard shall be located in a separate enclosure accessible only to authorized persons. The switchboards shall be convenient for use, readily accessible for maintenance, clear of traffic lanes, and in a dry ventilated space free of corrosive fumes or gases. Overload protective devices shall be suitable for operating properly in the ambient temperature conditions.

(20-10.3) Panelboards.

- A. Panelboards serving lighting and appliance circuits shall be located on the same floor as the circuits they serve. This requirement does not apply to emergency system circuits.

(20-10.4) Lighting.

- A. All spaces occupied by people, machinery, and equipment within buildings, approaches to and exits from buildings, and parking lots shall have lighting.

- B. Patients' rooms shall be equipped with general lighting and night lighting. A reading light shall be provided for each patient. At least one light fixture for night lighting shall be switched at the entrance to each patient room. All switches for control of lighting in patient areas shall be of the quiet operating type.
- C. Operating and delivery rooms shall have general lighting in addition to local lighting provided by special lighting units at the surgical and obstetrical tables. Each fixed special lighting unit at the tables, except for portable units, shall be connected to an independent circuit.

(20-10.5)

Receptacles (Convenience Outlets).

- A. Anesthetizing Locations. Each Operating and Delivery Room shall have at least three receptacles of the types described in NFPA Standard 56A, "Inhalation Anesthetics."
- B. Patients' Rooms. Each patient room shall have duplex grounding type receptacles as follows: one located on each side of the head of each bed; one for television, if used; and one on another wall. Nurseries shall have not less than one receptacle for each bassinet. Receptacles in Pediatric Units shall be of the safety type or shall be protected by 5 milliampere ground fault interrupters. If the program requires, similar safety devices shall be used in psychiatric units.
- C. Corridors. Duplex receptacles for general use shall be installed approximately 50'0" apart in all corridors and within 25'0" of the ends of corridors. Receptacles in corridors of pediatric units shall be of the safety type or shall be protected by 5 milliampere ground fault interrupters or shall be controlled by switches located at a Nurses' Station or other supervised location. Single polarized receptacles marked for use of X-ray only shall be located in corridors of patient areas so that mobile equipment may be used in any location within a patient room without exceeding a cord length of 50'0" attached to the equipment. If the same mobile X-ray unit is used in operating rooms and in nursing areas, all receptacles for X-ray use shall be of a configuration that one plug will fit the receptacles in all locations. Where capacitive discharge or battery-powered X-ray units are used, these polarized receptacles are not required.

Equipment Installation in Special Areas.

- A. Installation in Anesthetizing Locations. All electrical equipment and devices, receptacles, wiring and conductive flooring shall comply with NFPA Standard 56A, "Inhalation Anesthetics," except that a static type line isolation monitor will be permitted.
- B. X-ray Installations. Fixed and mobile X-ray equipment installations shall conform to Article 660 of NFPA Standard 70, "National Electrical Code."
- C. X-ray Film Illuminator Units. At least two units shall be installed in each Operating Room, Emergency Treatment Area(s), and in the X-ray Viewing Room of the Radiology Department.
- D. Special Grounding System. In areas such as Intensive Care Units (and Special Care Nurseries, when indicated by the Program) where a patient may be treated with an internal probe or catheter, the patient room ground system shall comply with the following:
 - 1. A patient ground point shall be provided within 10'0" of each bed. The patient ground is intended to assure that under normal conditions all electrically conductive surfaces of equipment and furnishings within reach of the patient will be at the same electrical potential plus or minus 10 millivolts differential. This requirement is not intended to apply to devices and utensils such as bedpans and other small portable nonelectrical devices.
 - 2. One patient ground point may serve more than one patient, but one patient shall not be served by more than one patient ground point.
 - 3. The grounding conductor connecting any receptacle serving a patient and the patient ground point shall not exceed the equivalent resistance of 15'0" of No. 12 AWG copper conductor.

4. Exposed metal building surfaces or utility piping within reach of the patient or others who may touch him shall be grounded to the patient groundpoint or to a separately established room groundpoint.
5. A reference groundpoint shall be established in the electrical supply panel.
6. The patient groundpoint and the room groundpoint where separated shall be interconnected by a continuous, insulated, copper conductor not smaller than No. 10 AWG and similarly connected to the reference ground or may be individually connected to the reference groundpoint provided that the ground conductor resistance does not exceed that of 15'0" of No 12 AWG copper conductor.
7. Receptacle ground terminals shall be connected to the patient groundpoint or to the reference groundpoint provided that grounding conductor resistance to the reference groundpoint does not exceed that of 15'0" of No. 12 AWG copper conductor.
8. Grounding of all metallic raceways shall be assured by means of grounding bushings on all conduit terminations at the panelboard and by means of an insulated, continuous, stranded, copper grounding conductor, not smaller than No. 12 AWG extended from the grounding bus in the panelboard to the conduit grounding bushings.
9. Grounding of metallic switch and receptacle plates shall be provided by means of the mounting-screw connections to the device mounting yokes.

(20-10.7)

Nurses' Calling System.

- A. General. In general patient areas, each room shall be served by at least one calling station and each bed shall be provided with a call button. Two call buttons serving adjacent beds may be served by one calling station. Calls shall register with floor staff and shall actuate a visible signal in the corridor at the patients' door, in the Clean Workroom, the Soiled Workroom, and the Nourishment Station of the Nursing Unit. In multicorridor nursing units, additional visible signals shall be installed at corridor intersections. In rooms containing two or more calling stations, indicating lights shall be provided at each station. Nurses' Calling Systems which provide two-way voice communications shall be equipped with an indicating light at each calling station light which remain lighted as long as the voice circuit is operating.

- B. Patients' Emergency. A Nurses' Call Emergency Station shall be provided for patients' use at each patient's toilet, bath, sitz bath, and shower room.
- C. Intensive Care. In areas such as Intensive Care where patients are under constant surveillance, the Nurses' Calling System may be limited to a bedside station that will actuate a signal that can be readily seen by the nurse.
- D. Nurses' Emergency. A communications system which may be used by nurses to summon assistance shall be provided in each Operating, Delivery, Recovery, Emergency Treatment, and Intensive Care Room, in Nurseries, and in Supervised Nursing Units for Mental Patients.

(20-10.8)

Emergency Electric Service.

- A. General. To provide electricity during an interruption of the normal electric supply, an emergency source of electricity shall be provided and connected to certain circuits for lighting and power.
- B. Sources. The source of this emergency electric service shall be as follows:
 - (1) An emergency generating set when the normal service is supplied by one or more central station transmission lines.
 - (2) An emergency generating set or a central station transmission line when the normal electric supply is generated on the premises.
- C. Emergency generating set. The required emergency generating set, including the prime mover and generator, shall be located on the premises and shall be reserved exclusively for supplying the emergency electrical system. EXCEPTION: A system of prime movers which are ordinarily used to operate other equipment and alternately used to operate the emergency generator(s) will be permitted provided that the number and arrangement of the prime movers are such that when one of them is out of service (due to breakdown or for routine maintenance) the prime mover(s) can operate the required emergency generator(s), and provided that the connection time requirements described in section D-4 are met.

D. Emergency Electrical Connections. Emergency electrical service shall be provided to the distribution systems as follows:

(1) Circuits for the Safety of Patients and Personnel.

- (a) Illumination of means of egress as required in NFPA Standard 101 (Life Safety Code).
- (b) Illumination for exit signs and exit directional signs as required in NFPA Standard 101 (Life Safety Code).
- (c) Alarm systems including fire alarms activated at manual stations, water flow alarm devices of sprinkler system if electrically operated, fire and smoke detecting systems, and alarms required for nonflammable medical gas systems.
- (d) Paging or speaker systems if intended for communication during emergency. Radio transceivers where installed for emergency use shall be capable of operating for at least one hour upon total failure of both normal and emergency power.
- (e) General illumination and at least one duplex receptacle in the vicinity of the generator set.

(2) Circuits essential to care, treatment, and protection of patients.

- (a) Task illumination and selected receptacles in Infant Nurseries; Medicine Dispensing Areas; Cardiac Catheterization Laboratories; Angiographic Laboratories; Labor, Operating Delivery, and Recovery Rooms; Dialysis Units; Intensive Care Areas; Emergency Treatment Rooms; and Nurses' Stations.

- (b) Corridor duplex receptacles in patient areas.
 - (c) Nurses' Calling System.
 - (d) Blood Bank Refrigeration.
 - (e) Equipment necessary for maintaining telephone service.
 - (f) Fire pump if installed.
- (3) Circuits which serve necessary equipment. The connection to the following emergency electric services shall be delayed automatic except for heating, ventilation, and elevators which may be either delayed automatic or manual:
- (a) Equipment for heating, operating, delivery, labor, recovery, intensive care, nursery, and general patient rooms except that service for heating of general patient rooms will not be required under either of the following conditions: (aa) if the design temperature is higher than 20°F (-7°C) based on the Median of Extremes as shown in the ASHRAE Handbook of Fundamentals, or (bb) if the hospital is served by two or more electrical services supplied from separate generators or a utility distribution network having multiple power input sources and arranged to provide mechanical and electrical separation so that a fault between the hospital and the generating sources will not likely cause an interruption of the hospital service feeders.
 - (b) Elevator service that will reach every patient floor. Throwover facilities shall be provided to allow temporary operation of any elevator for the release of persons who may be trapped between floors.
 - (c) Ventilation of unfenestrated operating and delivery rooms.
 - (d) Central suction systems serving medical and surgical functions.

(e) Equipment which must be kept in operation to prevent damage to the building or its contents.

- (4) Details. The emergency electrical system shall be so controlled that after interruption of the normal electric power supply the generator is brought to full voltage and frequency. It must be connected within 10 seconds through one or more primary automatic transfer switches to emergency lighting systems; alarm systems; blood banks; nurses' calling systems; equipment necessary for maintaining telephone service; and task illumination and receptacles in operating, delivery, emergency, recovery, and cardiac catheterization rooms, intensive care nursing areas, nurseries, and other critical patient areas. All other lighting and equipment required to be connected to the emergency system shall either be connected through the above described primary automatic transfer switches or through other automatic or manual transfer switches. Receptacles connected to the emergency system shall be distinctively marked. Storage battery-powered lights, provided to augment the emergency lighting or for continuity of lighting during the interim of transfer switching immediately following an interruption of the normal service supply, shall not be used as a substitute for the requirement of a generator. Where stored fuel is required for emergency generator operation, the storage capacity shall be sufficient for not less than 24-hour continuous operation.